Transportation, Land Use and Ecology along the Wasatch Front

Report from a conference held on November 14, 1997

"No society is healthy without both the will to create anew and the will to save the best of the old..."

—Wallace Stegner

The Greater Wasatch Area in 2050
(population 4.6 million)

- 1997 urban areas
- 2050 projected urban and urbanizing

Wallace Stegner Center
for Land, Resources and the Environment
University of Utah College of Law

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Preface

The report you hold in your hand is a summary of proceedings from a conference titled "Transportation, Land Use and Ecology along the Wasatch Front." The conference was held in Salt Lake City on November 14, 1999, and was presented by the Wallace Stegner Center for Land, Resources and the Environment at the University of Utah College of Law. The event brought together more than 300 policy makers, business professionals, and interested citizens to learn about growth challenges facing the Wasatch Front region and to work toward possible responses to those challenges.

Conference participants heard inspiring keynote speeches, engaging panel presentations, and thoughtful reactions from two of Utah's political leaders. They also worked together in small groups to address issues ranging from growth constraints to satellite cities to land use and transportation scenario building. This report contains material covered at the conference, plus an update on activities since then and some reflections on emerging challenges for the future.

Chapter one of the report provides the context behind the conference, including background information about growth trends in the Wasatch Front region and some of the values at stake in the debate about growth. Chapter two contains the conference proceedings, beginning with a thought-provoking series of questions posed by keynote speaker Robert Liberty, the director of 1000 Friends of Oregon. In the following section, "The Challenge Ahead—Growth, Mobility, Environment, and Quality of Life," Brad Barber, Deputy Director of the Utah Governor's Office of Planning and Budget; Robert Grow, President of Geneva Steel and former Chair of Envision Utah; and Roger Borgenicht, Chair of the Future Moves Coalition identify future growth-related problems and discuss some possible solutions. This thread is carried through the next three sections where Bob Johnston from the University of California, Davis; Dan Carlson from the University of Washington; and Philip Emmi from the University of Utah offer additional options for consideration from their considerable research on transportation and land use issues. The final keynote presentation, by Peter Calthorpe, outlines many of the principles of the New Urbanist movement in architecture, and provides numerous examples of places where these principles have been applied in actual development projects.

The remaining two sections of chapter two provide responses to the materials presented in the chapter's first six sections. The "Participatory Workshops" section describes the group workshop process that was utilized at the conference, followed by a summary of the groups' discussions. The chapter then concludes with reactions from two of Utah's political leaders, Marda Dillree, Co-chair of the House Transportation & Environmental Quality Appropriations Committee; and Dave Jones, the House Minority Leader.

Chapter three outlines how transportation and land use policy has developed since the conference, focusing on the work of the Envision Utah project and outlining the content of the Utah Quality Growth Act of 1999. The report concludes with reflections on the challenges ahead and the questions to be addressed in the future.

Salt Lake City
September 24, 1999

Acknowledgments

As with any public program the nature and size of "Transportation, Land Use and Ecology along the Wasatch Front," there are many people and organizations whose contributions of time, treasure, and talent made the conference and this report possible.

The number of conference sponsors alone is significant. At the University of Utah, these included the Associate Vice President for Academic Affairs, the College of Social and Behavioral Sciences, the Department of Geography, the Urban Planning Program, the Department of Family and Consumer Studies, the Graduate School of Architecture, and the College of Law. Beyond the University, sponsors included the Future Moves Coalition, the Coalition for Utah's Future, Great Salt Lake Audubon, Sierra Club Utah Chapter, ASSIST, and Artspace.

The conference was organized by a group of dedicated individuals, without whom the program would not have been successful. These included the members of the conference steering committee—Robert Adler, Roger Borgenicht, Philip Emmi, Ann Floor, and Wayne Martinson; the College of Law staff that implemented the program—Dan Barnett, Margaret Billings, Karen McLeese, Pamela Starley, Lisa Stewart, and Joro Walker; and the facilitators and scribes that led the workshop sessions—Dan Barnett, John Bowman, Wade Budge, Deb Callister, Bob Caudle, David Chapman, Michael Crane, Wendy Crowther, Andrew Fitzgerald, Steve Francis, Heather Green, Laura Grey, Stephanie Hancock, Lucy Hawes, Margaret Hunt, Jason Keith, Kelly Magnusson, Francine Mahak, Kim McKinnon, Julie Nelson, Andrea Olson, Zach Peterson, Susan Rutherford, Michele Straube, Carol Werner, Kelly Williams, and Rosalie Woolshlager. We are also indebted to Professor Robert Keiter, Director of the Wallace Stegner Center, and Lee Teitelbaum, former Dean of the College of Law, for their advice, encouragement, and support of the conference.

Naturally, no conference is worthwhile without engaging speakers. The talents of Brad Barber, Roger Borgenicht, Peter Calthorpe, Daniel Carlson, the Honorable Marda Dillree, Philip Emmi, Robert Grow, Bob Johnston, the Honorable Dave Jones, and Robert Liberty made the program—and this report—lively, insightful, and inspiring.

All conference organizers hope that the events they produce have some lasting effect after the program's closing applause. Recognizing the inherent limitations of the printed word, this report endeavors to record the words and sentiments expressed at the conference in the hope that conference participants, and others, may continue to receive some of the benefits of the event. The editors that translated the conference materials into a coherent document were Robert Adler, Dan Barnett, Keith Bartholomew, Roger Borgenicht, Philip Emmi, Ann Floor, Wayne Martinson, Pamela Starley, and Joro Walker. The production of this report was made possible through a grant from the United States Environmental Protection Agency.

The Wasatch Front at a Crossroad

The Wasatch Front region of Utah runs approximately 130 miles from Brigham City and Ogden in the north, through Salt Lake City in the center, to Provo and Spanish Fork in the south. It is bounded by imposing physiographic features: the Wasatch Mountains to the east and north, and Great Salt Lake, the Oquirrh Mountains, and Utah Lake to the west and south. It is the region in which Utah's Mormon pioneers first settled, the seat of Utah's government, the heart of the state's culture, and the home to most of Utah's population. Roughly four out of five Utahns live and work in this area, which is only 0.5% of the state's land mass.

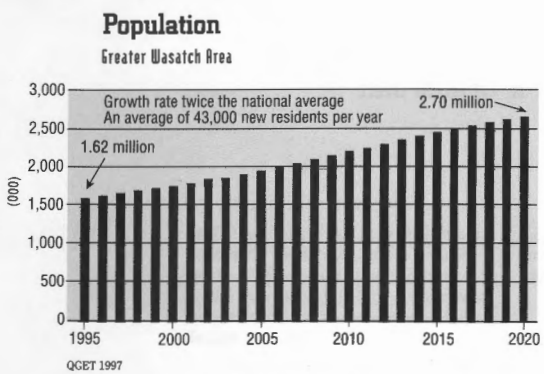
By many measures, the Wasatch Front is thriving. The region's economy is strong and growing, as is its population. With a growth rate twice the national average, state planners project that the Greater Wasatch Area population will increase from 1.6 million in 1995 to 2.7 million by 2020, and as many as 5 million by 2050. At this rate, the population will double every 32 years. New industries find the area attractive because of its physical beauty and high quality of life, its educated workforce, and its moderate costs of living and of doing business. Compared to many U.S. cities, problems such as crime, poverty, and unemployment remain relatively low—at least for now.

Yet these very indicators of growth present some of the most critical public challenges the area has faced since its first European settlers arrived in the mid-nineteenth century. The Wasatch Front is poised at the juncture between the fruits and the poisons of its own success. Many similar growing regions have found that rapid growth can be accompanied by a wide range of problems, such as crowding; traffic congestion; air pollution; loss of open space, ecological values, and recreational resources; overtaxed public infrastructure (water supply, sewerage, schools, hospitals, public safety), and the rising revenues needed to keep up with demand; and increased crime and other social problems.

Already, these problems are beginning to surface along the Wasatch Front. Development in the foothills of the Wasatch Mountains is limited by steep slopes, public lands, and conflicts between residential developments, wildlife habitat, and recreational access. Sprawl growth is therefore moving further west into Wasatch Front valleys, where it encroaches on open space, farms and ranches, and wetlands and other critical wildlife habitat adjacent to Great Salt Lake, Utah Lake, and their tributaries. The expanse of the built environment is increasing and expected to increase further as a result. If current growth patterns persist, the state predicts that the urbanized portion of the area will nearly double from 320 square miles to 590 square miles between 1995 and 2020. Supporting this level and pattern of growth will require significant public expenditures. For example, water development is expected to cost the region over $3.2 billion during that period, and water rates are expected to increase by 50 percent as a result.

The Greater Wasatch Area population will increase from 1.6 million in 1995 to 2.7 million by 2020, and as many as 5 million by 2050.

Transportation is one of the most daunting problems posed by this rapid growth. If current land use and transportation trends continue, the total number of miles of automobile travel (expressed as "vehicle miles traveled," or VMT) is expected



to rise even more rapidly than population, *almost doubling* from more than 40 million in 1995 to almost 77 million in 2020. Air pollution is expected to increase, potentially offsetting years of progress in improving air quality. Even if all proposed highway projects are built (including expansions to I-15 and I-80, as well as the proposed Legacy Highway), at a cost of over $10,000 per household, congestion and commuting times are expected to get worse, with peak period traffic speeds decreasing 20% and peak period delays doubling.

The cumulative total of water, sewer, and highway costs is estimated to equal $15.6 billion. If these costs are divided by the 440,000 anticipated new households in the region, the cost will be $35,000 per new household. If the costs are divided among the 960,000 projected total number of households, the cost will be $16,000 each. These figures do not include costs for additional local streets, schools, parks, libraries, public safety facilities, and solid waste management facilities.

These statistics and projected problems can be viewed in two ways: either as an inescapable price of the region's future growth and economic development, or as a warning of problems that could be avoided by new and better public and private strategies and investments. Under the first view, growth is inevitable because of Utah's high birth rate and the state's high quality of life, which attracts new residents and new businesses. All we can do, according to this view, is to accommodate growth by building more roads, sewers, dams, schools, police and fire stations, and the like, wherever they are needed. Under the second view, these predictions reflect just one possible future for the Wasatch Front, with other plausible—and potentially more desirable—outcomes depending on a range of public and private choices that have yet to be made.

Other growing regions of the country, while not rejecting growth per se, have decided not to simply accept all of the negative side-effects of rapid growth. Instead of addressing the discrete service and infrastructure needs of a growing population in isolation, these areas have studied the relationships between public investment decisions, state and local land use planning, and a range of growth-related problems, including traffic congestion and air pollution. Some such studies have concluded that government decisions on what infrastructure to build and what services to provide, and where, do much more than respond to demand for those services. In fact, this research indicates that new infrastructure directs growth and generates new demand by its very existence. There is increasing evidence, for example, that new and expanded highways induce more sprawl growth, and thereby exacerbate the very traffic jams they were built to alleviate. As a result of this work, some communities have changed their approach to public investments and their vision of the future of their communities.

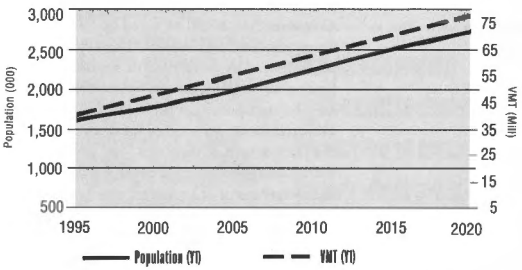
The Wasatch Front is at an important crossroad. Its leaders and its citizens can either sit by helplessly while the region is plagued by the same problems that have faced scores of growing American cities in the twentieth century. Or, they can seek a new urban vision that will serve the needs of Utahns into the twenty-first century. Fortunately, many of Utah's leaders recognize

this challenge. In December 1995, Utah Governor Mike Leavitt and the Utah State Legislature convened a "growth summit" at which public officials and private citizens explored the needs and problems of Utah's rapidly growing communities, including the Wasatch Front. Since then, a public/private community partnership called Envision Utah has been exploring a range of alternative growth scenarios for the Wasatch Front, to inform future decisions about growth and its associated benefits and problems. Building on support generated by Envision Utah, the 1999 Utah Legislature adopted the Utah Quality Growth Act, establishing a Quality Growth Commission to make recommendations on the content of future growth-related legislation. With these efforts, Wasatch Front citizens and public officials are positioning themselves to address, rather than simply to accept, the problems posed by rapid growth.

Wasatch Front residents and leaders are beginning to ask the right questions about whether they really do have some choice about their future. They have initiated a more serious effort to consider the impact of state and local land use and transportation decisions on the magnitude and direction of future growth. By engaging in such a discussion, the public will have some say not only on the issue of whether they want to pay for a new road or light rail system with higher taxes, which has been focus of the transportation debate in recent years, but also about whether they want to spend their tax dollars to promote more growth in the region, and where that growth should occur. Perhaps they will have some input into key government decisions that will affect their fundamental quality of life in the future—issues like whether the air their children breathe will be cleaner or dirtier, and whether they will live in a sprawling metropolis like Los Angeles or New York, or in a Wasatch Front that has preserved its farmlands and other open space.

Vehicle Miles of Travel

Greater Wasatch Area



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The Goal and Structure of the Conference

The Wallace Stegner Center for Land, Resources and the Environment, a program of the University of Utah College of Law, guided by a planning committee consisting of Stegner Center faculty and other personnel and outside experts, sought to contribute to this ongoing dialogue by sponsoring a conference held in November 1997 entitled "Transportation, Land Use and Ecology along the Wasatch Front." Through the conference and this report, the Stegner Center hoped to accomplish two goals. First, it set out to explore innovative ways in which other communities have addressed growth related problems in general, and the relationships between land use planning, transportation strategies, and environmental impacts, in order to see what lessons could be learned for the Wasatch Front. Second, the Center wanted to provide an opportunity for a diverse audience of public officials and private citizens to discuss their views about the most critical problems the region faces, a range of alternative solutions that should

be explored to address those problems, and an alternative vision for what the region should look like in the next several decades.

Over 300 participants attended the conference, including public officials, transportation planners, business leaders, transportation and environmental advocates, and members of the public interested in land use, transportation, and environmental issues. The conference was designed to educate the audience on a range of strategies used in other parts of the country, and to explore, with intensive audience participation, specific ways in which those strategies might be implemented along the Wasatch Front.

The conference began with a keynote address by Robert Liberty of 1000 Friends of Oregon, who described Portland's experiences with similar growth and transportation problems, and suggested the kinds of questions that should be asked by Wasatch Front residents and leaders. The keynote was followed by two panels of speakers. The first panel outlined the growth-related land use and transportation problems facing the Wasatch Front, with three speakers offering the perspectives of state and local governments, nongovernmental organizations, and the private sector. The second panel consisted of experts from different regions of the country who suggested alternative planning concepts that can be used to avoid sprawl growth served by—and perhaps fueled by—new highway construction. The lunch address was given by noted architect and planner Peter Calthorpe, author of *The Next American Metropolis* and a leader of the New Urbanist architectural movement, which is working to transform the way we think about American cities. Mr. Calthorpe described innovative concepts in urban and regional design that can be used to solve traditional land use and transportation problems faced by modern American cities.

After lunch, audience members were divided into small groups to participate in workshops designed to explore the manner in which growth is expected to affect Wasatch Front residents, and to identify possible solutions based on the morning presentations. In each workshop, participants were asked to identify their concerns about the impacts of growth on one of the following five areas: transportation, land use, environment and quality of life, public decision making, and the regional economy. Participants were also asked to identify potential solutions to these problems. Finally, the conference reconvened in plenary session to discuss the ideas identified in the breakout groups and to propose further steps to incorporate these ideas into state, regional, and local decision making. This closing session included reports from the workshop sessions, reactions from two key state legislators involved in transportation planning and funding decisions, comments by speakers from the morning panels, and general audience questions and discussions. Through this process, the afternoon sessions tried to define a vision of what participants want their region to look like in the next several decades, and how they might get there.

This report summarizes and assimilates both the expert presentations and the audience input in a format that we hope will be useful to both the Wasatch Front and other regions that face similar problems. Due to space limitations, only Robert Liberty's keynote address is presented in full. The ideas and information presented in the panel discussions and in the participatory workshops are summarized. The report will be disseminated to a wide range of public officials who are involved in statewide, regional, and local planning issues, including the governor and the state legislature. The report does not purport to provide definitive answers to the many difficult issues that face the region as it grows over the next several decades. However, we hope that the ideas presented will contribute to the ongoing dialogue in a way that will help Wasatch Front residents and decision makers ask the right questions, take advantage of the experience of other communities, and make intelligent choices about growth issues in the years to come. These ideas may also be of use to other regions around the country that face similar land use, transportation, and environmental planning challenges.

Six Questions on Land Use and Transportation

Robert Liberty

Executive Director, 1000 Friends of Oregon

I was selected to give this speech today because I am an "outside expert." An outside expert is someone whose prestige and credibility is directly proportional to the distance she has to travel to provide her advice, and her level of ignorance about local circumstances. As you may have guessed, I have great prestige and credibility.

You do not need a sophisticated knowledge of geography and history to know that Oregon is not Utah and that the Wasatch Front is not the Portland metropolitan area. You have sagebrush; we have bracket fungus. You have powder snow; we have drizzle. You have brine shrimp; we have salmon. You were settled by people seeking freedom to practice their religion; we were settled by people seeking free farmland, many of whom were seeking freedom from religion. We are very different places. We are different people. We have different political traditions.

So how am I qualified to provide answers that fit your unique situation? The simple answer is that I am not. What I can do, however, is to ask what I think are the six key questions you need to consider to find the right answers yourselves.

Question 1

How will we address property owners' interests in our planning process?

The right to own and use property, including land, is a basic component of freedom. It is protected by the U.S. Constitution. You must consider the effect of your planning efforts on people's property interests. But unless you are very careful, you will address only the interests of those people whose land values might be decreased by regulation. They are only a subset of the wider group of property interests worth considering. A few examples of the other interests may be helpful:

Once upon a time, somewhere in the West, county commissioners approved a landowner's request to build a contaminated soil incinerator. The landowners got to "do what they wanted" with their land, but the facility depressed the value of the neighbors' land by several million dollars. No one offered to compensate those landowners.

The same county commissioners approved a subdivision on land in the middle of a ranch. The ranchers were obliged to spend more than $10,000 to build a fence to keep their cows out of the subdivision. The neighbors "right" to develop their property diminished the ranchers' right to ranch theirs.

The county commissioners then gave permission to a landowner to build a Wal-Mart on land beside a new freeway interchange, two miles outside the downtown of a nearby small city. By exercising his property rights the Wal-Mart landowner made a sizeable profit, but the owners of three stores in the downtown went out of business.

Each person's property rights cannot be absolute because how we use our property affects how other people use theirs.

In each case, the value of real property was seriously diminished by the development activities of other property owners, yet none

of the landowners who lost money or property value were compensated. No one bothered to consider their property rights.

In other situations, people's property values are *increased* by government investment, such as the example of the owner of the Wal-Mart site, who reaped the benefit of a publicly financed freeway. Land values can also be increased by regulations that restrict development. What do you think would happen to the property values in a neighborhood if a regulation prohibiting fast food restaurants or gravel pits was repealed?

Each person's property rights cannot be absolute because how we use our property affects how other people use theirs. Government decisions allowing development or investing in improvements can affect land values just as much as government decisions restricting development.

When you discuss alternative patterns of development for your region, you will have many people calling your attention to how such changes may reduce their property values. They deserve to be heard. But you must also make sure that you hear from all the people whose property values are being reduced by development, as well as the owners of property whose land values would be increased by good planning.

I hope you also will balance your consideration of property rights with a proper appreciation for community values. A property rights perspective taken to an extreme defines human relationships solely in terms of financial transactions and ignores property responsibilities. It is hard, sometimes impossible, to even discuss a common future when the debate is dominated by the belligerent assertion of personal interests. People in this region, perhaps more than any other region in the nation, understand that a sense of community is created by a recognition of interdependence, of the need for restraint, mutual respect, and cooperation, not just a respect for property rights.

photo by Gary Crandall

Question 2

Why should the taxpayers pay for regional planning?

Don't shrink from this question; it is one of the best questions for you to ask, judging from experiences elsewhere.

During the late 1980s, New Jersey was struggling with the completion of its Interim State Development and Redevelopment Plan. Critics in the New Jersey State Legislature thought this effort would wither on the vine when subjected to a good hard analysis of its economic and fiscal consequences. The 1989 New Jersey legislature commissioned a study comparing the fiscal and economic costs of continuing the current pattern of dispersed growth with the more compact pattern of growth proposed under the Interim Plan.

Researchers from Rutgers, Princeton, Harvard, and the private sector completed a massive 1,000 page report in February 1992. They found that the more compact growth pattern in the draft State Plan required 130,000 fewer acres than the current low-density pattern[1]. By not spreading development over that additional acreage, New Jersey would save $740 million on state and local roads, $440 million in water supply and sewer infrastructure, and $400 million in annual operating costs[2] to municipalities and school districts. While the more dispersed low-density scenario would result in $350 million in additional development (largely to the benefit of the private sector),[2] those increases would be completely overshadowed by the enormous additional costs that would be imposed on the taxpaying public. Instead of helping to finish off planning in New Jersey, the fiscal impact study vindicated it.

Similarly, in December 1995, the American Farmland Trust released the results of a study of what would happen if future growth in the Central Valley of California occurred at six dwellings per acre instead of three. At six units per acre, only 475,000 acres would be required for urbanization, instead of one million acres. By 2040, the compact growth pattern would yield $29

[1]One hundred thirty thousand acres is about two-thirds of the amount of urbanized land in the Salt Lake region today.

[2]Over the twenty-year study period.

billion in cumulative savings in the cost of taxpayer-financed infrastructure services. The compact development pattern would also retain $34 billion in farm and farm-related income that would have been eliminated by sprawl.

Utah's taxpayers deserve to know what the current development patterns are going to cost and to be offered some less expensive alternatives.

Question 3

Are we ready to start doing "transportation planning"?

That question probably sounds patronizing or flippant since you are already doing a great deal of planning about how to improve, or even maintain, mobility for your cars and trucks. Your preoccupation with cars is natural.

The population of cars has been rising faster than the population of people; between 1975 and 1990, U.S. population increased by 15.9% while the number of cars and trucks increased by 41.9%. In Salt Lake County and southern Davis County, population is expected to increase by 49% between 1990 and 2015, but the vehicle population will increase by 59%.

Not ouly are there more cars, but you are driving more as well. According to the Baseline Scenario report, the average number of miles traveled per person per day in the Wasatch Region will increase from 25 to 29 by 2020. The average vehicle miles traveled per day throughout the region is expected to increase from 40 million miles today to more than 75 million miles by 2020, equal to 170 round trips to the Moon every day.

So it is not surprising that your "transportation planning" is really limited to planning how to accommodate more cars and more driving. But the consequences of this definition of transportation planning are beginning to sink in. According to the *Baseline Scenario* report, the $9.2 billion in expenditures on roads and highways scheduled between 1995 and 2020 (more than $10,000 per household), will yield only a short term reduction in congestion. By 2020, peak period travel speeds will drop from 28.8 miles per hour to 22.9 miles per hour.

The failure of $10 billion in investments to achieve congestion relief suggests that your current definition of "transportation planning" cannot properly diagnose the source of much (if any) of your congestion: It is not because you lack enough freeways and roads but because of the way your communities are designed.

America's pattern of suburban development separates housing from shopping, services, schools, and employment. It cuts down on connections by building roads like watershed drainages, which flood daily because there are no alternative travel routes. It makes walking so difficult and hazardous that in many places in America when you see someone walking you cannot help but wonder if they are off their medication.

Photo by Beaky Blizzard

It is this land use pattern that explains why only 3% of all urban trips made in America are made by foot or bicycle, compared to more than 40% in the Netherlands. The progression from car planning to true transportation planning requires you to change your transportation planning models to take into account the small scale urban design and large scale land use patterns that cause automobile dependence. Until your transportation planning is integrated with land use planning, you will be stuck in the hopeless cycle of trying to build your way out of congestion. It didn't work in Los Angeles and officials in this region are beginning to understand that it won't work here either: John Leonard of the Utah Department of Transportation was quoted in *The Salt Lake Tribune* on September 17, 1997 as saying "There is not enough land or money to build enough roads."

That comment is a hopeful sign, because whether it admits it or not, the Utah Department of Transportation is the most powerful land use planning agency in Utah. Within the Wasatch Front region,

UDOT's influence completely dwarfs the efforts by your two metropolitan planning organizations, 10 county commissions, and 81 city and town councils and planning commissions; they are little mice racing around beneath a rumbling fleet of bulldozers.

What if you changed your idea of transportation planning from how to build more roads to statements of principles about the kind of region and communities you want? For example, what if you adopted the following principle as the basis for regional transportation planning: because major transportation facilities are the framework for regional development patterns, major investments in these facilities must be made only within the context of a comprehensive regional land use plan? Here are some principles that might govern transportation planning at the local level:

photo by Keith Bartholomew

Our communities will be designed so that every able-bodied grade school child will be able to walk or ride a bicycle to school, safely and within a reasonable time.

Citizens who are too young, too old, or too poor to own a car should have the same convenient access to jobs, stores, and schools as persons with cars.

Everyone should be able to buy a pint of milk without paying more for the gasoline for the trip to the store than for the milk.

Of course, money talks louder than principles. The generous and dedicated funding source for roads and highways is another reason why one kind of transportation solution—more roads and freeways—is always built, even when other solutions might make more sense and might cost less.

What if the projected $10,000 per household that you are proposing to spend on roads and highways could be spent on any combination of transit, pedestrian and bicycle facilities, and land use planning changes that could deliver the same level of mobility as your current emphasis on roads and freeways? What if you offered a package of different kinds of community improvements that could be purchased with that $10,000 per household, and let the public decide whether they want to trade one additional minute of commuting delays for a few thousand acres of open space or a new community center?

It is time to begin genuine "transportation planning" that subordinates road and highway construction to regional and community design. Until you think in terms of broader issues of mobility and base decisions on principles about the nature of your region and communities, you will end up planning around steel and rubber instead of around hearts and minds.

Question 4

Why should working class and poor people care about regional planning?

Planning has often been seen as an elite activity, of interest to, and for the benefit of, the upper-middle class or the wealthy. And for good reason.

Inner-city neighborhoods were demolished in the name of urban renewal, freeways were punched through poor communities, landfills and factories were located in or around the homes of working class and poor people. Public investments, from sewers to freeways, were built for the benefit of new suburbs, where zoning is used to keep out lower cost housing and thereby lower income citizens. So there are reasons why people of modest means will wonder, "What's in this planning for working class and poor people?"

Your region needs to think about that question in a serious way, or by 2050 when your population is the same size as Philadelphia's today, you will have Philadelphia's kind of urban problems. At the heart of most of the older and larger metropolitan regions in the East, like Philadelphia, and in the Midwest and California, are concentrated areas of great poverty, called slums, barrios, and ghettos. They are places where jobs have left, businesses are closed, property

values are sinking, and hope is disappearing. These areas are no longer confined to the central cities; they have spread into the first, second, third, and, in the Chicago region, the fourth ring of suburbs—up to 40 miles from downtown.

Some people still think that these patterns of metropolitan urban decay are the result of personal preferences and market forces, but they are not. Residential zoning restrictions, the financing of government services by property taxes, and priorities given to suburban infrastructure investments combine to polarize regions into areas of high wealth, plentiful jobs, and rich property tax bases, and areas of poverty, low employment, great social stress, and little fiscal capacity.

There is a natural tendency to assume that the urban decay and regional polarization that has happened in a place like Chicago or Philadelphia could never happen in the Wasatch Front region. But that same comforting assumption was held by places like Minneapolis-St. Paul and Kansas City, until urban decay and regional social polarization hit them, despite healthy regional economies. Don't delude yourself. It can and will happen here too.

But it doesn't have to happen here, if you ask yourself at the outset of your regional planning effort: What's in it for working class and poor people?

What do people struggling to earn enough money care about? Jobs and decent places to live. According to the *Baseline Scenario* report, your region is going to be producing plenty of jobs. The question is whether the working poor will be able to get to the entry level and service sector jobs which are plentiful in the newly urbanizing parts of the region. Or will zoning be used to continue to segregate people by class? Will cities and neighborhoods be able to say to fellow citizens "You are good enough to wait on our tables, carry our shopping bags, or teach our children but you are not good enough to live in our community"?

The first step toward avoiding urban decay is to eliminate or reduce the zoning barriers that prevent the free market from building apartments, duplexes, rental units, and small houses—including manufactured houses—on small lots in the suburbs. But it is neither necessary nor desirable to zone large areas for low-cost housing. Lower cost housing can easily be blended in with higher cost housing, on the same block and in the same neighborhood. Instead of minimum lot sizes, you can allow average minimum lot sizes to be built out as a mixture of bigger and smaller lots. Allow accessory units, (known as granny-nanny-danny flats) within existing houses or atop existing garages. This kind of arrangement can help first-time home buyers to finance their home purchase and allow seniors to find a place to live near their families but with the privacy of a separate residence. Reduce minimum lot sizes overall and make it easier to build on sub-standard lots. Four-plexes, like the one I live in, can have exactly the same appearance as a single family house and be built on a standard single family lot. This is housing that is affordable for your children as they begin adult life, or for your parents who have sold the family house.

There is a natural tendency to assume that the urban decay and regional polarization that has happened in a place like Chicago or Philadelphia could never happen in the Wasatch Front region.

Don't delude yourself. It can and will happen here too.

You can also establish inclusionary housing requirements. Such regulations require that in larger developments, a minimum share of the housing units being built will be affordable to families earning 50% to 80% of the regional average household income. As Montgomery County, Maryland and other communities have demonstrated, it is possible to build high quality developments where people of modest means can live, without having their homes branded as working class or government assisted. You must also encourage your nonprofit housing providers to become regional in their perspective and ambitious about forming partnerships with for-profit developers.

At the regional level, the cities and counties that already provide more than

photo by Keith Bartholomew

their fair share of lower cost housing in the region can focus on attracting more middle and upper class residential development, while other communities that have not assumed their fair share of regional affordable housing responsibilities get caught up.

In addition to increasing the supply of affordable housing to match areas of high job growth, jobs need to be provided in areas which have labor surpluses. State and local governments today often use incentives to attract or retain employers. If these are marshaled on a regional basis they can encourage the siting of new employers in areas that are experiencing some economic distress and need additional employment. This strategy may also please outlying communities that are finding the current rate of growth more than they can manage.

Regional efforts at neighborhood reinvestment through the rehabilitation of contaminated sites or even by the creation of an important new regional amenity, like the restoration of a contaminated waterway or a park development, can help increase opportunity and economic diversity within distressed neighborhoods.

The entire region has a stake in finding ways to make planning a benefit to working class and poor people. Professors Manuel Pastor, Peter Dreier, and Eugene Grigsby studied 74 different metropolitan areas in the United States. They found that efforts to reduce central city poverty led to an increase in regional income per capita. As they put it, "Doing good and doing well went hand in hand." That message should be very appealing in the Wasatch region.

Question 5

How can we increase urban densities without diminishing our quality of life?

Spreading, low-density development—commonly known as sprawl—is a national problem. Between 1970 and 1990, the Kansas City metropolitan area grew by 29% in population, but 110% in land area. The Seattle metropolitan area's population grew by 38% while its land area grew by 87%. Cleveland's metropolitan population shrunk, but its land area grew by 20%.

Another way of expressing sprawl is in terms of density. In 1960, the metropolitan Atlanta region had an urban density of 3,100 people per square mile. In 1990, the Atlanta region's urban density had fallen to 1,900 people per square mile. In 1990, the north-south axis of the metropolitan Atlanta commutershed was 65 miles; today it is more than 100 miles.

The *Baseline Scenario* for the Wasatch Front region predicts that your urban population will increase by 69% between 1995 and 2020, but that your urban land area will increase by 84%. Between 1995 and 2050, your population is projected to triple, but your urbanized area is expected to quadruple. In other words, your region's urban density is expected to continue dropping for the next 55 years.

Most planners and many citizens understand that if sprawl is to be curbed, by definition urban densities need to be increased. This leads to the question: How can we increase urban densities without diminishing our quality of life? But lower densities are the cause of projected losses of open space and increases in congestion, air pollution, and infrastructure costs for roads, highways, and other improvements. Looked at from this perspective, the real question is "Can we protect our quality of life *without* increasing our urban densities?" If you are going to change your development patterns to encourage frugality instead of profligacy in the use of land, then changes in attitude and changes in design are essential.

The place to begin changing attitudes is by tackling the question, "Does increasing residential density cause increases in crime and other social problems?" A high-profile committee of community leaders, police officials, and academicians should review the literature on this subject from across the U.S. and the world. Map your own region to determine if density and crime are related. Make sure this information is reviewed in the press and discussed at community meetings.

The neighborhood level is the best place to help people understand exactly what higher densities look like and how they function. A useful exercise is to have citizens determine the densities of current neighborhoods, especially in popular, successful neighborhoods. You should also determine the densities of your neighborhoods in the past. Increases in density are much less frightening if there is someplace familiar that already has the proposed higher densities.

But you need to go beyond research to create new models of development with higher densities of housing and employment and mixtures of uses. Testing the market for new higher density, mixed-use designs is a task ideally suited to a public/private partnership. Government can absorb some of the costs or the risk for experiments in design. Once a prototype of more compact development has been built and proven successful, builders and lenders will feel more confident about building similar projects elsewhere in the region.

Create incentives for more compact development, such as reductions in system development charges, density bonuses, or even something as simple as community design awards, with citizens and neighborhood organizations as the jurors.

By addressing this question, increases in your current low densities will cease to be a threat and will come to be understood as part of the solution.

Question 6

How can our region develop the political will to change our pattern of growth?

I understand you have embarked upon a very useful and ambitious effort to analyze current trends and devise alternative futures with different development patterns. This is an excellent starting point for developing the will to change direction. But in order for your discussion of alternative futures to work it has to be honest, imaginative, and broadly participatory.

By honest, I mean that it must be blunt about what the various alternatives mean for individual citizens and the region. Honesty is particularly important when it comes to the *Baseline Scenario*. People here must really understand where they are headed before they can decide whether they like that direction.

Imagination is necessary in order to create a broad range of alternatives. It is easier for citizens to understand what the choices mean if each alternative expresses a strong, clear vision with an underlying organizing principle, such as environmental protection, social equity, or fiscal efficiency.

In order to promote public understanding about the alternatives, everyone in the region ought to have a chance to participate in the discussion of them. Mail to every household in the region a summary of the *Baseline Scenario* and the alternatives to it, and broadcast this information on television, radio, and the internet. Everyone should be invited to express their preferences by mailing in response cards, participating in public debates, and through public opinion polling.

A successful discussion of these alternative visions can lead to rising public support for changing the pattern of growth in the region—perhaps a modest change, perhaps a big change. How can the change come about? I don't know the answer to that question. But I do know how it will not come about. It will not come about because you publish a "vision" report. Deeply entrenched development patterns, reinforced or inspired by government investments and the familiar

Did George Washington and Thomas Jefferson decide to cancel the Revolution because the Loyalists would be upset?

systems of local land use regulations, are not going to be altered by the publication of a book of nice sentiments and well-meaning suggestions. That is about as effective as running alongside a freight train and yelling advice up to the engineer about why he should change direction.

Nor will fundamental change come about through consensus: that is not how decisions are made in America. Did George Washington and Thomas Jefferson decide to cancel the Revolution because the Loyalists would be upset? Should we have kept slavery until the South and North reached a consensus? Did women get to vote because all the men reached consensus on that question? Would Salt Lake City exist if Brigham Young waited for a consensus to form before choosing the valley of the Great Salt Lake as the place to establish a new Zion? The Utah Legislature does not make decisions based on consensus. Your governor is not selected by consensus. Your existing zoning and land use decisions are not made by consensus. When people say that change can only occur when there is consensus, what they are really saying is that they do not want controversy or to challenge existing institutions. They do not want to do anything that is politically risky. Ultimately they do not want change at all.

I simply cannot believe that a people who were inspired and bold enough to leave their churches, their homes, and their countries to follow a new faith, to build new communities in the wilderness, and to design new social institutions are now trapped by inertia, unable to shape their own future because someone might object! You cannot wait for another Brigham Young to provide the leadership.

In order to change direction, the people must provide direction. They can do it in the old-fashioned American way, by voting on it. Almost every person should be able to agree that the citizens of the Wasatch Front region deserve to be given a chance to make decisions about their future. After all, that is the essence of democracy. Why not allow the residents of the region the opportunity to vote on the *Baseline Scenario* and one or more alternatives to it?

If the Baseline Scenario is selected as the preferred alternative, all of the planning advocates can pack their bags and move to Boulder or Bozeman or Boise. If one of the other alternatives is selected, however, it will provide a clear signal to state and local officials that their citizens expect them to do something about regional growth patterns, not just talk about them. This regional vote might provide the impetus for the creation of new regional institutions with the authority and responsibility to make sure the chosen alternative becomes a reality.

Conclusion

Those are my six questions for you. I have given my reasons why I think they are good questions to ask, but you will have to provide the answers. You are better positioned today than most other high growth regions to address these questions and to grapple with the issue of regional growth. Government, business, and private foundations are putting money behind the planning effort. The interest in planning has strong and growing grass roots in this region, but it also has impressive "brass roots" as well. And unlike many other regions, I sense that your grass roots and brass roots respect and appreciate each other's role.

But there is no room for complacency. Your rate of growth means you or your children will see more change in the first 25 years of the 21st century than your grandparents and parents experienced in the first 75 years of the 20th century. You have a distinctive landscape, a unique political and social history, and a strong sense of community. In a single lifetime, growth can overwhelm and destroy these special qualities. Or you can find the path to a new kind of metropolitan community that can be an inspiration to all Americans.

This pathfinding journey into the future will impose far less hardship than the journey made with oxcarts and handcarts. But the stakes are just as high for your community as they were 150 years ago. Are you up to the challenge?

The Challenge Ahead: Growth, Mobility, Environment, and Quality of Life along the Wasatch Front

Brad Barber Deputy Director, Utah Governor's Office of Planning and Budget
Roger Borgenicht Director, ASSIST, Inc.; Chair, Future Moves Coalition
Robert Grow President, Geneva Steel; Chair, Envision Utah

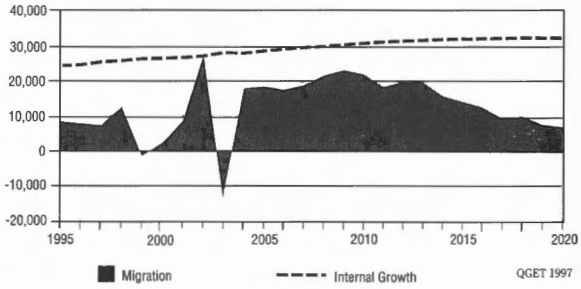
Continued population growth is a fact of life for the Wasatch Front region. The area stretching from Brigham City in the north to Nephi in the south and from Tooele in the west to Heber City in the east is expected to grow radically over the next twenty-five years. By 2020, the population of the region will expand to about 2.7 million people, which is to say that we will add approximately the population of Bountiful to the region each year. Although it is common to attribute growth to the migration of people from the West Coast, two-thirds of Utah's population growth is from children born in the state. Neither can long term growth be attributed to the upcoming 2002 Winter Olympics: although a substantial migration is expected to occur in response to the Olympics, most of those immigrants are expected to leave the area shortly thereafter.

With the expected growth will come a host of changes that require considerable planning and foresight. For example, although water supply is not expected to constrain growth through 2020, developing water resources after 2020 will be expensive and will result in human and environmental tradeoffs. Developing the water resources of the Jordan and Bear Rivers, as well as the conversion of water from agricultural to municipal and industrial uses, will cost $3.2 billion, a cost of $3,000 per household. Households already here will share in that expense. Impacts will include the destruction of fisheries, wetlands, and riparian wildlife habitats; the deterioration of water quality; and changes in the salinity of Great Salt Lake.

Additionally, with increased population, the Wasatch Front region will look different. The urbanized portion of the Greater Wasatch Area will nearly double to 590 square miles by 2020 and will cover an area the size of metropolitan Philadelphia by 2050. The overall density of the region will increase as more than one half of today's agricultural land is converted to urban uses; however, the density of the urbanized portions will decrease as home buyers demand larger building lots. Some constraints on growth are simply beyond local control. For example, stricter federally mandated air quality standards will make compliance more difficult and, absent unforseen improvements in pollution control technology, may limit growth in the region.

Migration and Natural Increase

Greater Wasatch Area



The mounting list of potential pitfalls facing the region have caused some to call for the governor's office to take an active role in developing and implementing long term strategies for the region. However, Robert Grow, President of Geneva Steel and Chair of Envision Utah, a broad-based coalition of community citizens and leaders, says that public calls for leadership from the governor's office are premature. According to Grow, those who call for leadership from the governor miss the point: the people should decide where to go, and then demand leadership in that direction.

The region cannot build its way out of congestion by increasing the number of highway lanes traversing the region.

The public, however, is justifiably daunted by complex issues such as growth and transportation infrastructure, which seem to be propelled by their own ponderous momentum. One mission of Envision Utah is to educate Utahns about choices within their power that can influence Utah's future. Envision Utah seeks to "get information to people and trust people to make good decisions."

photo by Keith Bartholomew

As a first step in helping the public decide the direction of Utah's future, Envision Utah commissioned a study to determine what it is about the Wasatch Front region that people value and want to preserve. According to this study, Utahns place the highest value on the sense of community they enjoy, and their ethical, hard working neighbors. Those who plot Utah's future should be made acutely aware of these values.

Utahns also appreciate the scenic beauty and recreational opportunities that the Wasatch Front region offers. Recreational opportunities, according to the Envision Utah study, include not only traditional outdoor recreation offered by the region's intermountain setting, but also includes playing fields and opportunities for family activities.

Residents of the region also express mounting concern about the already overburdened transportation infrastructure. Along with population growth, the number of vehicle miles traveled in the area is expected to nearly double, from 40 to 77 million, by the year 2020. The demands for improvements to the transportation infrastructure are expensive: the Governor's Office of Planning and Budget projects that development of the region's transportation infrastructure will cost 9.7 billion dollars between now and the year 2020. Although revenue sources for this development have not yet been identified, the cost will come out to about $10,000 per household.

Additional highway construction, however, will provide only transient relief from congestion. Although short term improvements in transportation will be realized following reconstruction of I-15, traffic congestion will be worse in 2020 than it is now: the average commute time for residents of the Greater Wasatch Area will increase 30% from 24 minutes to 34 minutes. According to Brad Barber, director of the Governor's Office of Planning and Budget, "Demand for transportation will continue to exceed our ability to build facilities. There's just no way this can continue."

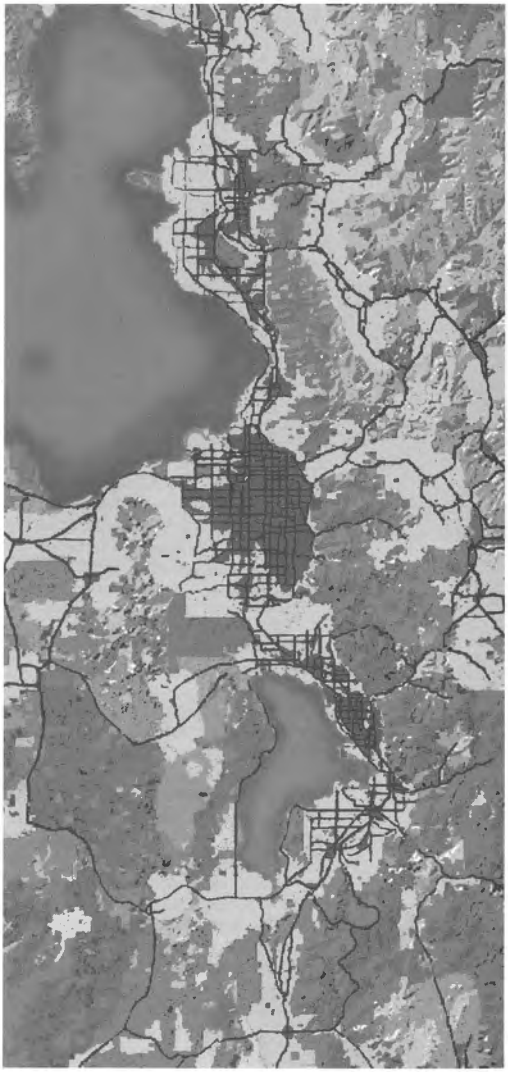
Roger Borgenicht, chair of the Future Moves Coalition, agrees that the region cannot build its way out of congestion by increasing the number of highway lanes traversing the region. Borgenicht contends that, although vehicle miles traveled will nearly double over the next two decades if there is no change in land development patterns and travel habits, that result is not inevitable. Rather, that projection follows from the current pattern of investing almost 95% of our transportation dollars on road construction and only 6% on transit systems. Alternative visions for the future of the region

may be realized with more balanced land use and transportation planning and investment.

Realizing an alternative future to congested freeway lanes requires altering assumptions under which planning takes place. By assuming that all transportation will take place in private vehicles, the only question left to transportation planners is how many lanes are required. The only transportation option that this leaves to families is "which car shall we take?" Assumptions about mass transit are similarly narrow. Current models of commuter train ridership, for example, assume a scaled back system running four trains in the morning and four trains in the afternoon on freight tracks. The resulting modest ridership estimates are commensurate with the modest scale of the assumed system.

As an alternative, it may be useful to consider 18 hour service, 7 days per week, with dedicated, state of the art equipment, convenient stops and frequencies, and stations integrated into the communities that they would serve. Why not ask how we can make land use decisions and transportation investments that will reduce growth in vehicle miles, rather than assume that vehicle miles will double? Other communities have faced these issues. By using integrated models, they have actually reduced auto traffic 12% while maintaining economic vitality and quality of life. Some alternative is needed because studies show that congestion and pollution will continue to out pace development.

Do we accommodate more auto traffic with more roads and more lanes, or make communities more pedestrian and bicycle friendly with integrated transit systems? Prudence would seem to call for a more balanced transportation investment portfolio.



Simulating Urban Land Use & Transportation Policy Impacts for Better Regional Planning

Bob Johnston

Professor, Division of Environmental Studies,
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The topic of urban land use and transportation policy simulations can be rather opaque. To address the subject in a reasonable fashion, I have broken it into four primary parts. The first focuses on the simulated effects of policies to reduce vehicle travel and atmospheric emissions. The second addresses issues in the design of good and bad urban simulation models. The third shows examples of simulation results transposed to computer generated maps via links to a geographic information system. The fourth looks on the general relationships between regional planning and urban simulation modeling.

Policies to Reduce Travel and Emissions

Integrated regional land use and transportation planning is new to the United States. As a result, we do not have good models to help explore what should be done in the field. European planners and researchers, however, have both good models and extensive experience in using them. Here is some of what has been learned.

Policies can be developed to reduce the vehicular traffic and atmospheric emissions that result from inefficient land use and transportation arrangements. Such policies fall into three broadly defined classes: land use policies, travel demand management policies, and transportation investment policies.

photo by Kevin Bartolomew

Land Use Policies: The central question about land use policies is whether greater density is more important than better land use mixes. While the results of land use mixing studies are mixed, computer simulations show that an improved job/housing balance—one form of land use mixing—can reduce total miles traveled by a few percentage points. These simulations have been validated by case studies of travel behavior before and after the construction of major housing developments in job-rich central cities, showing substantial declines in central city work trips.

The effects of increasing density have been more broadly studied. Early studies showed that households in densified corridors produced fewer vehicle miles traveled (VMT) than households in areas that were less dense. In some studies, simulations have indicated that doubling density reduces VMT per household by 20 to 30 percent. In one example, the Portland, Oregon region found that it could expect a 14 percent reduction in VMT by building mixed-use, mixed-density, transit-oriented developments along a light rail corridor.

Travel Demand Management Policies: Travel demand management policies generally focus on the price of transportation, but in terms of time and money. For many, the purpose of travel demand management is to have the traveling public recognize the full and true cost of their travel choices. Currently, the full costs of travel are either unpriced or paid by someone else through the higher costs of goods and services. Thus, travel, particularly auto travel, is steeply subsidized.

Studies by the U.K. Department of the Environment and by the Organization for Economic Cooperation and Development have found that travel demand management is a useful and necessary complement to land use policies and transit facility investments. Together, these policies can easily work to reduce travel and emissions of air pollutants by 10 percent over trend conditions within 20 years.

Transportation Facility Investments: Properly conducted computer simulations frequently show that freeway expansion and high-occupancy vehicle alternatives have higher levels of VMT and oxides of nitrogen than "no-build" scenarios. On the other hand, simulations also show reductions in VMT and emissions with scenarios that include light rail transit, transit-oriented developments, and either road tolls or a moderate fuel tax. But the least-emissions scenarios are not the least-congested scenarios. While travel behavior and land use patterns adjust to new land use and transit opportunities, people will have more waiting time and delay imposed upon them for mal-adaptive behavior.

Good Models and Bad Models

Of course, well-informed decision making requires the use of tools that accurately predict the results of policies under consideration.

DRAM/EMPAL is a land use model developed by Stephen Putman that has been deployed in about 15 U.S. metropolitan regions. Since it fails to show how land use responds to wildly varying scenarios about transportation facility investments, it does not work well in any area. It could not even be calibrated to satisfactory statistical levels in Seattle, Portland, and Southern California. It has simple linkages between the movement of people and employment that merely follow prior-period moves to areas with unoccupied land. This is done without regard to land price, as the model contains no land market simulation capabilities. By European standards, it is not a good model.

A pair of spatial economic models have been developed in Cambridge, England, and Caracus, Venezuela: MEPLAN by Marcail Echenique and TRANUS by Tomas de la Barra. These are integrated land use and transportation planning models that have interesting characteristics. At the core of each is a regional input-output model. This captures economic relationships among many industrial sectors. It lets one ask, for example, what happens if we close down a military base and develop a manufacturing center in its place.

photo by Keith Bartholomew

Both models simulate the urban land market. This lets one assess policies that impact land availability or land prices. Both models have travel models with formulations that are internally consistent with their land use models. This means that you can compare the results of land use policies with travel demand management and transportation investment policies. Although this seems pretty basic, most other models do not offer this feature. Both models are comprehensive. They yield information about transportation system performance, land market responses, and consumer welfare measures. With 25 to 30 applications each, they have a good track record. By showing the effects of both added road capacity on land use and of land use changes on traffic flows, they pass the common sense test. They represent the kind of model people can use with confidence.

Mapping Simulation Results

Policy impacts can be complex. Mapping these impacts helps to convey the information in more understandable forms. In many land use analyses, people are often interested in where new growth will occur. This can be readily shown by linking the output from an urban simulation model to a good geographic information system (GIS). GIS-based maps can show color-coded areas of existing and new growth, and map overlays can indicate the characteristics of the new growth areas. For example, the overlays can indicate where the new growth is occurring on prime agricultural lands, in wildlife habitat areas, or in 100-year flood plains.

When considering these choices, think of the world visitors that will come to your region during the Olympics.

With GIS, studies of alternative policy scenarios, such as Envision Utah, can show net benefits or net costs over a base or trend scenario. These data can be displayed to show how these benefits and costs can affect different populations in different ways at different times. For example, the welfare effects of a high-occupancy vehicle (HOV) scenario are substantial but if given sufficient time, they are overtaken by the welfare effects of a light rail transit (LRT) scenario. But in addition to time-dynamic effects, you also have income-class distributional effects. While an HOV scenario principally benefits longer-distance, higher-income commuters, an LRT scenario directly benefits low- and middle-income travelers and indirectly benefits—through lowered roadway congestion—middle- and higher-income commuters. These effects can be mapped both graphically and cartographically.

Comments on Regional Planning

Mention of regional planning typically raises fear of the creation of new regional governments. But regional government is not needed. Regional cooperation is.

The business community is a logical leader in regional cooperation. People in business want to know where to develop. They want to know how infrastructure development will be coordinated with zoning and land development. And they want to be able to streamline processes for receiving land development permits, and for paying impact fees and commercial property taxes.

Effective regional coordination requires the use of good urban simulation models. Such models need to be able to answer convincingly such questions as:

Whether adding roadway capacity will increase or lengthen car trips.

What effects will travel have on land use, and land use on travel?

Are existing and proposed land use and transportation policies and decisions equitable?

How do various policy options affect the economic welfare of different income classes?

Urban simulation models help people reach agreement about what to do, and provide the basis for cooperative action.

The Wasatch Front region faces broad and fundamental choices. When considering these choices, think of the world visitors that will come to your region during the Olympics. Many of them will be accustomed to having ready access to housing, services, recreation, and employment because of the sensible land use planning and convenient alternative modes of transportation provided in their home cities. Hence, if you think of how such a visitor would react to the way your city works, your choices are likely to be good.

photo by Dr. Laurel Casjens

Linking Transportation and Land Use: Are We There Yet?

Daniel Carlson

Research Consultant, Institute for Public Policy and Management, University of Washington

There are three paradigms that we have used to think about transportation issues since World War II. The first has to do with capacity and usually focuses on increasing the amount of roadway. The second, mobility, focuses on multi-modal transportation—increasing the number of ways to get around. The third approach is accessibility. This is the notion that best lends itself to issues of community and quality of life: we get the things we need to make life work, but we don't necessarily have to travel to get them done.

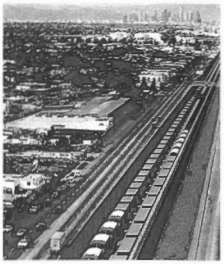
In general, I would suggest that most plans for new freeways are stuck in the old way of thinking—the first paradigm focusing on capacity increase. What we want to move towards is accessibility. To do this we must begin by creating a new urban form that increases the quality of our lives and decreases the frustrations.

Many things have to be rethought to make this happen. But change is coming. For example, many modern production systems in the U.S. are organized around "just in time" delivery, a concept that has essentially converted our highways into moving warehouses—goods are stored off-site at remote locations until just before they are needed. In Japan, where congestion has become much worse than here, companies are changing their view of "just in time" delivery. What they are finding is that it's more profitable to create regional centers for keeping inventory at a central location. In large part, that discovery was made because congestion forced them to discover it. So, congestion isn't all bad. It helps us to make decisions about what we do and what we need.

Another example of how thinking is shifting is the publication of *Beyond Sprawl*, a report jointly produced by Bank of America, the Green Belt Alliance, the Low-Income Housing Fund, and the California Resources Agency. Despite their varying interests, all of the organizations basically agreed that sprawl is not working any more for anybody. Though the groups come from different places and represent different constituencies, they all could agree that something new needs to happen: a new way of regulating land use that provides greater certainty about where development is permitted (and where it is not) and emphasizes infill, redevelopment, and other ways of protecting open space, recreational opportunities, and vistas.

Over 20 years ago, Boris Pushkarev and Jeff Zupan wanted to identify the levels of density needed to make transit service cost effective. Their research has held up well over time. The bottom line is that regular express bus service can be reasonably be supported by development densities of six or seven dwelling units per acre. That is the density of many small towns in America. So, the nation has a history of "doing density" at levels that support transit and yet provide for the "American dream." Unfortunately, most modern suburban densities are at just three to four houses per acre.

Making sense out of transportation and land use policies depends on being able to institutionally link the two disciplines. It won't come as a surprise to you that in our collective wisdom, we have separated the governmental authority covering these two subjects from each other. Land use is controlled primarily at the most local level of



government, while transportation decisions are made on a regional, statewide, or national level. This disconnect is the source of a lot problems.

Many assume that bridging that gap requires state-level growth management legislation. But consider the case of Lexington, Kentucky. Just outside Lexington is historic Paris Pike, a road perhaps like one in your neighborhood. Paris Pike runs 12 miles to the small town of Paris, in Bourbon County. Twenty-five years ago, Paris and the Kentucky Department of Transportation proposed to widen Paris Pike to induce economic development. Area land trusts, property owners, and concerned citizens, however, resisted the project. These groups understood that widening the road would not help the primary segment of the local economy, which is based on horse farms and agriculture. In fact, the project might destroy that economy, as well as the region's history and quality of life.

After three mediation efforts and 25 years of lawsuits, the state and the citizens came to a two-part agreement. First, the road widening will be led by a landscape architecture design team, with engineers becoming involved only later in the process. Second, the widening will occur only after the creation of a land use commission comprised of representatives from the surrounding local governments and the conservation land trusts in the area. The commission's jurisdiction covers a two-mile wide corridor for the full length of the Pike. Commission members are required to agree on a land-use strategy for the corridor, which the cities and counties are then obliged to adopt that as part of their comprehensive plans and land use ordinances.

This solution was not mandated by the state or the federal government; it was created by four localities. Elected officials decided this was a good way to resolve a problem and they used a common state enabling law to forge inter-jurisdictional cooperation.

Another example comes from the Alameda Corridor, which runs between the ports of Los Angeles and Long Beach. The corridor is about 14 miles long and is the subject of a $1.6 billion project to grade-separate a rail line that moves freight between the two ports. To accomplish the project, the ports and the 12 local governments along the right of way formed a new entity called the Alameda Transportation Corridor Authority. Under the relevant state law, the strongest regulatory power of any of the single entities in the Authority can be used by the entire collective body. The Authority is now combining the transportation and land use powers of its constituent members to consolidate three surface rail lines and create the new grade-separated line. As in Kentucky, this integrated solution was not mandated by the state, but was created through an association of local governments and special districts.

Another California example is in San Diego. There, the regional transit agency pays for a planner from the city to work at the agency on facilitating the development of transit-oriented communities along the region's light rail lines. The planner works with developers, the agency, and the city to help streamline the approval process, coordinate land use and transportation policies, and thereby encourage the construction of transit-oriented developments.

As these examples demonstrate, the link between transportation and land use is not the sole domain of state growth management legislation. There is plenty of room between the extremes of complete local control and absolute state authority. The Wasatch Front region already has the ability to realize many of the visions outlined today through various methods of jurisdictional cooperation. There is no one way to accomplish such cooperation, but it is possible and it has to be done.

Innovation, Choice and Urban Form Along the Wasatch Front

Philip C. Emmi

Professor of Urban and Regional Planning, University of Utah

The cover of this report shows an animation of how urban growth is expected to evolve over the long-term future in this region. You will recognize the obvious geographic features—the Great Salt Lake, the Wasatch Mountains, the Oquirrh Mountains, Utah Lake, the major highways, our long and narrow urban corridor hemmed in between mountains and lakes.

When put into animation, the patterns of future growth become clear. Extensive areas will be subject to suburban land conversion. Significant farm lands and orchards will be lost. Access to open space will be reduced. Wildlife habitat will be diminished. Exposure to wildfires will increase significantly. Earthquakes, floods, and debris flows will likely have greater human significance. Travel within the region will become awkward and sluggish. Linking the Wasatch Back with the Wasatch Front and the developments to the north with those to the south will be difficult. Air and water resources will have to be managed closely.

What you see is based on the assumption of continued trends. They represent a continuation of current practices in the promotion of highway-dependent suburban sprawl. Is such a future inevitable? Are there other options to pursue? Yes, I think there are.

While it has taken 30 years for Utah's population to double, its automobile accident rates have doubled within the past 28 years, licensed vehicles have doubled within the past 24 years, vehicle miles traveled in urban areas has doubled within the past 14 years, and the volume of interstate traffic has doubled within just the past 9 years. As a result, mobile sources are now responsible for over 99 percent of the region's carbon monoxide pollution, over 85 percent of its nitric and nitrous oxide pollution, and over 50 percent of its emissions of volatile organic compounds. Much of the problem can be traced to the way that added highway capacity induces further automobile traffic.

Why Traffic Grows so Much Faster than Population

Consider the graphic used on the cover of the April 1966 edition of Asphalt, the trade journal of the Asphalt Institute. It provides clear evidence from within the highway-building industry about induced traffic—evidence that this industry now prefers to ignore. The language is interesting. It reads:

"Asphalt's Magic Circle"
Asphalt, April 1966

- *Deep-strength asphalt pavement provides more paved roads for fewer tax dollars.*
- *More paved roads stimulate travel, boost road fuel use, and provide more road-tax revenue.*
- *More road-tax revenue means more dollars to maintain and build extra paved roads.*
- *More improved roads ease traffic congestion and stimulate even more travel.*

It is ironic. In 1966 it was clear that highway improvements induced further highway travel. But today the travel demand forecasting models used for transportation planning and air quality certification pointedly ignore this fact. In the meantime, transportation research has shown that

added highway capacity clearly induces increased traffic.

In England, the Standing Committee on Trunk Road Assessment found in 1994 that a one-percent increase in added highway capacity yields a one-percent increase in traffic. More recently, University of California Professor Mark Hansen found that a 1.0 percent increase in highway lane miles creates a 0.9% increase in traffic within just 4 years.

Added highway capacity induces further traffic as it encourages a pattern of suburban land development that requires people living there to drive further to get things done. Through impacts on land development, a new road's very existence stimulates added growth in trip-making. By promoting suburban sprawl, new roads create their own congestion. Today's new highways create an irresistible demand for more roads tomorrow. Like Angelinos, we now behave like freeway junkies high on access to cheap suburban land.

It is clear that current trends lead to unnecessary increases in the cost of living locally. But few have yet discussed how higher taxes, higher wage demands, and more expensive environmental permits will drive up the cost of new job creation and weaken the region's business climate.

Our public investment decisions are being governed by a seriously mistaken assumption: that we can relieve traffic congestion with added highway capacity. This is based on a failure to understand the linkage between transportation and land use. In part, the problem has been due to the lack of an impossibility theorem in transportation and land use planning. Physics, the queen of the sciences, is grounded in several impossibility theorems like:

- *One can not travel faster than the speed of light*
- *One can neither create nor destroy matter or energy*
- *One can not empirically verify non-factual statements*

What's needed is an impossibility theorem for transportation and land use planning. More directly, the facts surrounding the situation suggest the following theorem:

- *One can not reduce traffic congestion with added highway capacity without first limiting the development of nearby land.*

Clearly, highway-dependent suburban sprawl is self-reinforcing, but it is also self-destructive. Other fuels, other transportation modes, and other forms of urban development need to be explored.

The Multi-Centered Urban Growth Scenario

Normally, options in urban form will include reference to the following archetypes:

- *Spread City*
- *Multiple Centers*
- *Radial Corridors*
- *Satellite Cities*
- *Urban Growth Boundaries*

Research with urban simulation models has shown favorable economic and environmental results for cities that have or move toward multiple transit-oriented development centers combined with periodically expanding urban growth boundaries, a good regional rapid transit system, and travel demand management policies. So, let us focus on how the Wasatch Front might evolve were it to become increasingly a multi-centered urban region.

A multi-centered urban region is one where urban land uses are consolidated into mixed-use, mixed-density activity centers, where the internal transportation needs within and around each center are served by neighborhood-scale technologies and where centers are linked together regionally by an area-wide rapid transit system.

The question now before us is how might these design characteristics be incorporated into urban forms along the Wasatch Front region without resorting entirely to intuitive design procedures: How might this be done in a way which well informed people would agree was reasonable? What are the

opportunities for variation in urban densities? In part, they are the ones we create. The challenge is to define where opportunities exist to create mixed-use, mixed-density, transit-oriented developments where a variety of travel modes might work and among which transit-based trips might constitute an important part of total travel.

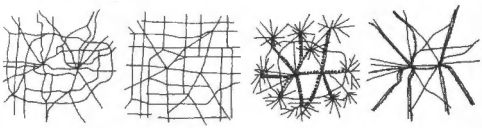
Major Activity Centers

To proceed, we have to know what is meant by a Major Activity Center. It is something that is in line with, yet different from, the transit-oriented development concept that Peter Calthorpe has developed. It is a place where urban activities are concentrated in a pattern of mixed uses and mixed densities, a place with internal coherence and discernible edges. It is sufficient in scale and density to support an internal transit technology, to attract significant external trips, and to serve as a major node on a regional transit system. It might have 18,000 to 25,000 residents and employees distributed across roughly four square miles. This implies a service area of roughly one and one-eighth mile in radius. Thus a normal individual could walk from one edge to the center in a little over 20 minutes.

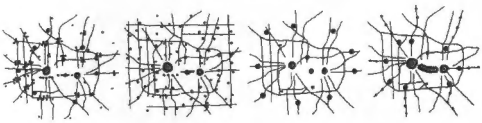
Such centers of urban activity have already begun to emerge along the Wasatch Front. These include the downtown central business district, the neighborhood centered on the University of Utah, the Salt Lake Airport, and the International Center to mention a few. There are also other commercial zones throughout the region that could begin to assume characteristics of a Major Activity Center. The future consolidation of such urban activity centers will be further encouraged by light rail transit projects currently under construction. Others will be consolidated with the construction of proposed light rail lines or in conjunction with rapid transit system plans not yet formulated.

The success of a regional rapid transit system depends, in part, upon the concentration of urban activities in proximity to transit stations. Proximity can be enhanced by increased density and by convenience of travel within the immediate neighborhood. Fort Union is interesting in this regard. Will it emerge as an Edge City location where all internal circulation will require a car, or will it be possible for mobility and access to be organized around some other more convenient, economical, and environmentally sensitive technology?

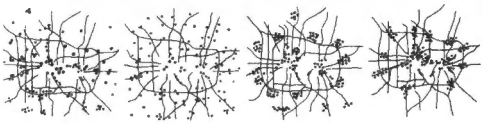
Urban Form



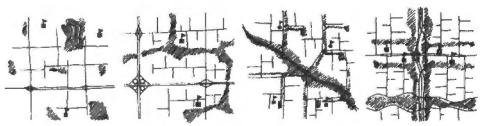
Transportation



Commercial



Industry



Open Space

It is clear we need more than one way to get around. Cities need to offer multiple layers of transportation opportunities—from pedestrian to airborne. A metropolitan region organized around multiple activity centers potentially offers a variety of approaches to access and mobility.

photo by Rick Egan, *The Salt Lake Tribune*

A Dual-Technology Transit System for a Multi-Centered Urban Growth Scenario

What is needed is a scenario that consolidates urban form into a series of urban centers that can be conveniently served by efficient forms of transport. At a minimum, a dual-technology transit system is needed to provide for circulation both within and among Major Activity Centers. For circulation within activity centers, we might imagine the use of an automated people mover (APM). This is an on-demand transport system for individuals and small groups. It features small vehicles holding up to 6 passengers. These run in a circuit on a lightweight mono-rail from origin to destination without intermediate stops. Individual vehicles accumulate at each station and are available as customers arrive. Each vehicle offers automated operation response to customer-specified destinations. The APM station is of modest and simple design. Vehicles are automatically distributed to stations to be available on demand. Passengers arrive, insert magnetic strips to indicate their destinations, get in, and take off. The system is convenient and unobtrusive. Its limitation is in its inability to serve dispersed clients over a large (greater than 2 mile) service radius. It is a neighborhood facility that works best in mixed-use, mixed-density activity clusters.

For circulation among activity centers, we might image a regional rapid transit system. Larger vehicles for group transport are needed for a regional system. These depart on a scheduled basis and stop at every station along its route. A duo-rail design allows one elevated guideway to accommodate vehicles moving in opposite directions. This is superior to conventional mono-rail designs.

Design Standards for Links and Nodes within a Multi-Centered Urban Region

Consider how these technologies might be coordinated into a mutually compatible arrangement of land uses and transit facility investments. Our design objectives are fourfold:

1. Optimally locate activity centers relative to future urban activities. Future urban activities could be represented by projected trip ends for the year 2020. Then the problem is to identify the appropriate number and optimal map locations of Major Activity Centers relative to the future distribution of urban activity.
2. Weave together the appropriate number of optimally located activity centers with an efficient regional transit network. This shows what a multi-centered urban design scenario might look like. But for that scenario to work, people have to find rapid transit a convenient way to get around. A system for neighborhood transport is needed for a real impact on regional transit system convenience and ridership.
3. Illustrate how automated people movers might serve a neighborhood-scale activity center focused on a

regional rapid transit station. The challenge is to circumscribe a neighborhood centered on a rapid transit station and identify an appropriate number and optimal map locations for its APM station stops. Each stop has a capture zone that is within a few minutes walk. Most major buildings are located within convenient reach of an APM station stop.

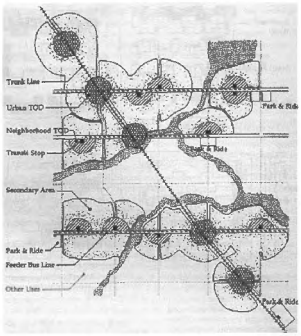
4. Stitch APM station stops together with an efficient guideway design that links stops to one another and to the local rapid transit station. These two objectives guarantee that transit technology works at the neighborhood scale.

A possible application of these principles to the Wasatch Front shows 41 Major Activity Centers regionwide. Each is about 2 miles across and represents an area where current or future urban activities could be consolidated into Major Activity Centers. Each of these centers would be served internally by an APM. In turn each center is linked to other centers via a regional rapid transit system.

This scenario indicates that roughly 21 percent of the region's population and employees could live and work in Major Activity Centers. Suppose that the number and optimal locations of the centers is such that 40 percent of all trip-ends are internal within a single center's boundaries. Also suppose that on average two-thirds of all trips within centers are transit, bicycle, or pedestrian trips. This means that at least one-quarter of all trips within the region are non-auto trips. It also means that more than half the growth in trips expected under trend conditions will be absorbed by non-auto trips.

In this scenario, people have choices. They can choose among a variety of urban settings. Places will be nearby and will be accessible by a variety of modes. If people choose to go by car, they will find existing roads adequate to their needs simply because many of their neighbors choose other ways to go.

One could use integrated land use and transportation planning models to assess the regional infrastructure costs, the transportation system characteristics, and the environmental consequences of this scenario. One could compare these with similar analyses for the continued-trend scenario. While transit infrastructure investments will be high, savings will be enjoyed in lower costs for new highway construction, water resource development, water and sewer facilities, and the construction of suburban streets, schools, parks, libraries, public safety buildings, and solid waste management facilities. Under this scenario, growth in automotive traffic and increases in congestion delays will both be slowed. Air quality violations will be notably fewer than in the continued-trend scenario.



Out of such comparisons could be drawn an assessment of the designs by which our cities will grow in the future, their strengths and weaknesses, and their roles in a larger vision of how we should develop as an urban region.

In conclusion, note that:

- *A significant critique has been mounted against old approaches and old assumptions.*
- *Transit technology and land use design innovations point to more workable options.*
- *Significant efforts are underway locally to design and analyze workable options.*

Therefore:

- *Analytical tools to ensure quality growth should themselves be of the highest quality.*
- *The integrity of analytical results should not be compromised by short-term political expediencies.*
- *Major new highway investments should await the results of these analyses.*

The Geography of Hope: Urban Design & Growth

Keynote Address by Peter Calthorpe

Principal, Calthorpe Associates

I get a lot of naysayers these days telling me how change is impossible and how I am running against the grain of the American dream. The first thing they say is, no matter what you do with community design and planning, people are still going to drive. People are wedded to their automobiles; it's the American way. The second thing they say is that transit is not cost effective; it's a boondoggle that no one rides. I have assembled some material to address these challenges.

The most strident and frequently mouthed negative is that there is no market for transit- and pedestrian-oriented development. People want large-lot subdivisions with three-car garages, they want to live on cul-de-sacs, and they don't want to know their neighbors. That is why we have a landscape that looks the way it does. I will discuss a range of projects, from both city and suburban locations, that demonstrate that transit- and pedestrian-oriented development is now getting built across the country, is very successful, and is fulfilling a very important need.

photo by Keith Bartholomew

To start, I want to begin with a set of four principles taken from work we have done with the U.S. Department of Housing and Urban Development (HUD). The principles are fairly straightforward and they apply across the board, from public housing to new subdivisions.

The first is *community and neighborhood.* The focus of this principle is to stop thinking in terms of individual projects and begin thinking in terms of whole neighborhoods and communities. Unfortunately, the mentality, economic structure, and zoning ordinances behind most of our city plans is focused at a parcel by parcel, project by project level. Planners, developers, and citizen groups have to take a proactive stand to look at what is happening in their entire community, and think in terms of how their neighborhood fits into the town and into the region. These are interlocking phenomena. For HUD this was terribly important because they had programs that were fractured. They had housing programs, social service programs, back to work programs, and they never even saw how these programs fit together in one neighborhood.

The second principle is *human scale.* Human scaled design is a must in any domain, whether it is urban or suburban. The philosophy of modernists like Le Corbusier—that we should destroy the historic urban fabric and put up environments that are shaped and scaled for the automobile—is a mistake. Given the history of urban renewal in the U.S., this principle has as much meaning in urban areas as in suburban areas.

The third principle, *diversity and balance*, isn't just about mixing uses—putting everyday uses within walking distance of our

households—but also mixing income and age groups. The more we segregate and isolate, the less we understand, empathize, and can cope with the problems of the poor in this country. Creating affordable housing in every neighborhood is a huge moral challenge. The functioning of our regions depends on it. If, as regions grow, they isolate poverty, they will have festering districts that will drag down the viability and the health of the entire region.

The last principle is *sustainability, conservation, and restoration.* The focus here is not just on saving riparian corridors and open spaces, but on restoring and reusing human institutions as well. It is important to maintain the history and character of neighborhoods and the history of architectural and urban traditions.

These are all things that play into a broader vision. But there are many popular assumptions that have to be challenged. First, does land use make a difference, or are we inevitably wedded to the automobile? There was a study done in the San Francisco Bay area that looked at the vehicle miles traveled per household per year in eight different neighborhoods. One was Danville, which has a traditional suburban landscape with huge freeway interchanges, clustered retail, big isolated office parks, and subdivisions filled with cul-de-sacs. It is an environment designed around the automobile, where the garage door is the primary way of communicating with the community.

Compare that to a pre-WWII suburb called Rockridge, an area situated between Berkeley and Oakland. It is not a particularly dense place: housing averages about eight units per acre, with a mix of apartments and ownership units. It has a fabric that was historically common for "streetcar suburbs." It now has an elevated Bay Area Rapid Transit line running through the middle of it. Historically, it was not a very expensive neighborhood but is becoming so because of its convenience and amenities. It has a beautiful, walkable main street that is within easy reach of all the houses, and that leads directly to the transit. It is a simple configuration that Americans evolved and know how to build.

The residents of Rockridge and Danville travel in very different ways. Rockridge has an average of 15,000 vehicle miles per household per year; Danville is double that at 30,000. One of the ways to look at this 15,000 miles/household/year difference is to convert it into dollars. 15,000 miles per year translates conservatively to approximately $5,000 a year, or around $70,000 to $80,000 in mortgage capacity. For many households, that's the difference between renting and owning.

The second assumption that must be challenged is that transit is not economically viable. We just completed a study of the northern two counties in the Bay Area: Marin and Sonoma. Together, these counties create a linear corridor—not unlike the Wasatch Front region—strung along one freeway and one rail line. The rail line, which was there first, is the genesis of all the towns in the counties: each town evolved around its little train station. What evolved is a low-density suburban development pattern that is nevertheless in a transit-oriented configuration because of the region's history.

photo by Keith Bartholomew

The study had to determine whether transit is viable in the corridor. The answer turned, in part, on which type of transit technology might be employed. We selected a fairly simple but new European technology that is essentially self-propelled light rail. It is a hybrid of the heavy, noisy, and slow diesel commuter trains and the nimble, light, and quiet light rail vehicles—but being self-propelled, it is much less expensive than light rail.

Our study included the customary computer analyses of the corridor. But we didn't just look at the transportation demand; we also looked at possible land use patterns in the corridor. The town of Petaluma, for

example, is sprawling at the periphery. But there are also huge old "brownfield" industrial areas at its core, right along the track next to the historic train station and the downtown area. Those brownfields present huge opportunities for infill and redevelopment,

which is what we showed Petaluma citizens, and we began to talk to them about it.

We didn't talk about high densities, however. Density is not the right way to discuss these issues, and it's not the sole criterion for whether transit works. The worst thing that could happen would be to have all transit-oriented locations become mini-ghettos for one income group or one density. What is needed is to have a *range* of densities. Including nice homes on medium-sized lots, perhaps with "granny/nanny/danny" flats, is important, even though it violates some of the preconceived notions about the relationships between density and transit ridership. Instead of density, the real issues are urban design, community fabric, and diversity.

In conducting our analysis, we began by treating the rail line as a commuter rail system. Because of the typically infrequent service of such systems, we estimated that the line would attract few riders. By adding transit-oriented development, however, the ridership doubled. This was accomplished by assuming that around 15% of the future development in the corridor would be located in areas that were within walking distance of the stations. When we then increased the transit service frequency to 10-minute headways (using the hybrid light rail technology) we found that the system would attract up to 24,000 trips a day, which is equivalent to the daily ridership on Portland's Banfield light rail line. What's significant here is that this is a suburb-to-suburb transit system.

I want to shift now to issues of urban design in smaller American cities. Portland is a great model, and provides a great set of metaphors. Tearing out a riverfront freeway and putting in a riverfront park, as Portland did 20 years ago, is a wonderful example of taking the city away from cars and returning it to people. It is the pedestrian environment that gives cities their unique quality in the regional set of choices that we have to make. If the city is just like the suburbs except denser, why would anybody choose it? There are many who say that people don't like cities. But the fact is that people like cities that are great to be in. People don't like cities that are not. It's pretty simple, and it's good business.

The three western cities that we've worked in, Portland, San Diego, and Sacramento, all of which have put in light rail, all have regional retail returning to the core. For thirty years, the regional retailers in these cities were spreading out to the malls and freeway interchanges, but after the introduction of light rail and the institution of pedestrian-oriented land use policies, a nexus of transit and regional retail seems to be establishing itself. In Portland, this was beautifully done, not disrupting the city grid and the human scale of it, but fitting into the history of the place, and reinforcing its special character. That's what's important about urban design.

In San Diego, the same phenomenon has occurred. At Courtland Plaza, the light rail is bringing pedestrians, rather than cars, into the center of the city. Courtland Plaza is a different version of urbanism than what happened in Portland. It is a bit of a mega-structure, but nonetheless, is adding vitality, diversity, and economic health to the central city and making the central city the regional hub that it once was and probably should be again.

Twenty years ago in Sacramento we inherited a plan conceived by the previous governor, Ronald Reagan, to basically demolish downtown. It was classic urban renewal: scrape out the low-income housing and the fine fabric of the old city blocks near the State Capitol and build huge superblocks with towers. This was the way Americans treated their cities in those days. We produced an alternative plan, which was ultimately implemented, that maintained the fabric of the city and the diversity of the housing, mixing it with retail, state office buildings, and light rail. So, this idea of mixed-use, mixed-density development in the central city is an old idea—it's really the original idea. Transit is bringing life back to the commercial district and regional retail is returning to the center of the city. Infill housing of all varieties has gone in, some over retail, some in trendy lofts. It has led to the whole rebirth of a town center for a whole range of people. It shows that these things really are possible, and that cities can come back to life if we focus the right design tools and make the right investments.

Some may say that this is easy to do in relatively wealthy Western cities without huge social problems. But we have had the opportunity to observe some of the same relationships at work in several of HUD's initiatives in Eastern cities to tear down and replace public housing projects. Relying on the four principles I outlined at the outset, HUD issued a directive: blow up the highrises, and build homes that fit into neighborhoods and that house working people as well as public housing people.

One of the toughest neighborhoods in the country is the area surrounding the Henry Horner housing project, on the west side of Chicago. When I first visited there to start doing design work, we literally could not get out of the car—it was so dangerous. It was a classic example of the segregation and isolation of the poor. Though it was bombed-out, the neighborhood contained a wonderful fine-grained historic urban fabric with a transit line right along the edge, adjacent to the high-rise housing projects. Ironically, though the transit line had just been reopened, the station at Henry Horner remained closed because people were afraid of the crime in that neighborhood.

The design that replaced the highrises is very simple. It merely replaces the old city grid and reuses the tradition of building townhouses and putting community facilities and parks at the heart of the community. When I was there six months ago, the director of public housing took me out and showed me the new neighborhood. Forty percent of the new housing is occupied by working families; only 60% of the housing is subsidized. This means the kids who live in public housing can see somebody going to work instead of going to the corner to deal drugs. A whole different level of security and sense of neighborhood has evolved. The most exciting part is that one block away from the redevelopment, private-sector infill housing is being constructed. In the worst of the worst neighborhoods, houses are getting built and people are moving in. If we can transform these neighborhoods, we can transform just about anything that we put our minds to. I think it's just a matter of getting clear what direction we need to go in.

This idea of mixed-use, mixed-density development in the central city is an old idea—it's really the original idea.

photo by Kelli Bartholomew

Our common space, the space where we come together, needs to be reintegrated into our neighborhoods and regions.

A wasteland that is more typical of the suburbs is a site we studied in the Portland region called Clackamas Town Center, an area dominated by a 1970s era shopping mall. The study was a part of the regional planning effort in Portland that focused on individual neighborhoods and had the neighbors themselves translate a proposed regional plan into a local context. For Clackamas, the plan indicated that the "Town Center" was to become a true town center with mixed-use, mixed-density development and a light rail stop.

photo by Keith Bartholomew

Interestingly, it was the owner of the mall who suggested that we overlay a grid street pattern like downtown Portland's onto the mall parking lot. That is what the plan ended up to be: a town center fabric of mixed-use development with civic buildings and transit stops at the heart, a fine grained grid of streets that are comfortable to walk along, and a whole range of housing from apartments to town houses to small-lot single family—a real town created out of a strip commercial area.

photo by Wesley Blizzard

A lot of people in the Portland development community were skeptical that our plan for Clackamas Town Center would work. Two weeks later, however, I visited a project that was virtually a built version of what we had just drawn in Clackamas: Misner Park in Florida. The site of an old suburban mall out in a single-family neighborhood on the side of a freeway, Misner Park has been transformed into a mixed-use center with office over retail on one side, housing over retail on the other, all shaped around a grand civic space with a parkway around it. The project has been the most successful commercial development in the state of Florida in the last five years.

In San Diego, developers took a dead Sears site and followed our design guidelines to create a mixed-use, pedestrian-oriented project of housing, small shops, and a grocery store. While most retailers insist that they must have a big store with a huge parking lot and visibility from the arterial to be successful, the store in this project had a very small parking lot, some parking underneath the store, and no visibility from the arterial. Ralph's, a big grocery chain in San Diego, went reluctantly into this project, and actually had the city guarantee to buy them out if they failed. This turns out to be the most successful store in Ralph's whole chain on a per square foot basis.

This just further demonstrates that every increment of growth can repair and enhance our community. There is tremendous redevelopment and infill potential in the existing urban fabric of most U.S. cities. Hence, when people talk about needing to expand outward at the fringes of a region to absorb growth, they are often overlooking substantial amounts of land that can be redeveloped over 20 or 30 years. In Portland, it was recently discovered that building permits accounting for thirty percent of the region's growth were being issued for properties that already had development on them.

An important challenge to address is how to handle very large institutions. The big corporations that are the reality of our economy don't have to be shut out of pedestrian scale environments. In San Mateo, the Franklin Fund has a million square feet campus with a big central green that connects to a mixed-use area with housing and retail, all in a walkable environment. Franklin could have left San Mateo for a big office park in the East Bay. They chose to stay, be near transit, and be in a mixed-use environment. That kind of story gets repeated again and again. This project is particularly fascinating because the housing and retail section of the development was recently purchased by Lee Iacocca. I figure if the guy who used to make cars has decided mixed-use neighborhoods is a good idea we're really on the verge of a major transformation!

Another challenge is to reestablish the civic domain. Our common space, the space where we come together, needs to be reintegrated into our neighborhoods and regions. Places for community festivals, farmers' markets, and flea markets are terribly important to how we experience and identify with community. Unfortunately, our current model for setting street patterns in most new-growth areas is working against us. Under the current system, all streets lead to collectors, and collectors all lead to arterials before you can get anywhere. This has effectively isolated our civic world from our commercial world.

If there was one thing that small-town America did right, it was the integration of the civic and commercial spaces. Those two need to be locked together. Yet in most of today's suburban developments we have tended to make shopping centers and civic centers separate destinations tied together only through the use of a car. This is largely due to the fact that we leave the design of our public domain in the hands of engineers who are thinking in terms of a singular system: traffic engineers are only thinking about moving cars, civil engineers are only thinking about water flow, and electrical engineers are only thinking about providing electrical service. The way it all comes together to make a civic place and the heart of the community is not attended to by anybody. That is a great tragedy.

As a first step to remedy this situation, we need to create a fabric of multiple streets that disperse traffic over many routes, rather than collecting it onto one. It is a simple principle that makes each one of the streets livable because all the streets are shouldering a small portion of the traffic burden. This then allows for creating narrower streets that can tie the commercial and civic world back together again.

Getting local government approval for creating narrow streets, however, can be challenging. Yet, we have found that there are a number of ways to narrow a street. We had a very tough public works director in Sacramento who refused to allow us to narrow the streets in a project we were designing. My response was to propose building standard width streets, but to plant trees in the parking lane so that at least the streets would look narrower. The public works director still would not accept it. So we did a full-scale mock-up to prove that the fire and garbage trucks had plenty of room to maneuver on the street. Still the director said no, insisting that people would run into the trees with their cars. When I pointed out that the trees were in the same spot as a parked car, he snapped back, "Well, parked cars have reflectors." So we agreed to attach *reflectors* to the trees when they get big enough!

photo by Keith Bartholomew

In conclusion, reclaiming the American metropolis is possible. By focusing on the four principles of community and neighborhoods; human scale design; diversity and balance; and sustainability, conservation, and restoration we can return our cities and regions to the people who live and work in them.

Participatory Workshops

Afternoon workshop sessions for the conference were designed to provide an interactive segment where a diverse mix of citizens could have a more focused, in-depth discussion on one of four topics. Participants were encouraged to express their views and concerns, suggest a range of alternative solutions to problems, and articulate an alternative vision for what the region could look like in the future.

Each workshop group included up to 20 people and had a volunteer facilitator and scribe. There were 12 groups in all, two or three addressing the same topic. The topics were:

Working with Constraints:

What are the key constraints on growth and transportation in the Wasatch Front (including those related to desired quality of life), and how should they be considered in shaping growth and transportation planning?

Identifying and Planning for Activity Centers:

What are or should be the centers of human activity along the Wasatch Front (residential, employment, commercial, educational, recreational), and what are the implications for transportation and land use decisions?

Beyond the Core— Satellite Communities:

How will growth in the core area affect satellite communities along the Wasatch Front (and vice versa), and how should this affect transportation and land use decisions?

Connecting the Dots:

What transportation and land use scenarios should be considered to link human activities along the Wasatch Front (residential, employment, shopping, education and recreation)?

Information from groups with the same topic was merged, written on charts, and posted on the walls. This provided the basis for reports to the full group with an opportunity for questions and answers.

Workshop Summaries

Land Use

Three groups discussed the impact of Wasatch Front growth on regional land use and development patterns. Yet, all group members agreed that a strong need exists to expose citizens, public officials, and development professionals to a variety of alternative land use and development scenarios. To promote informed decision making, this education effort should focus on clarifying the consequences and cost of these various approaches to planning. One group suggested that alternative model communities be built so that officials and the public could view concrete examples of alternative land use development.

Many group members were also concerned that the true costs of the current development and transportation strategies are not properly reflected in the apparent costs of the supporting infrastructure. Group members advocated the implementation of a cost allocation scheme that would uncover the hidden costs of infrastructure through impact fees, taxes, and tolls.

Discussions also focused on a need for consistent and cooperative land use and development planning among the various levels of government. Group members urged that this planning incorporate protection of open spaces and agricultural land through urban growth boundaries and respect for natural hazards such as fault lines.

Finally, the land use discussion groups saw a need for community-based planning where more planning decisions were made in neighborhoods and community councils.

Transportation

Two points were common to the groups that discussed the impact of growth on transportation needs and services along the Wasatch Front. Of these common concerns, the most important was the need to integrate land use and transportation planning. This integration effort should involve all levels of government, including state government, to assure truly regional planning, and should be based on long-term as well as short-term vision.

photo by Gary Crandell

The other common concern was the need to facilitate understanding of the actual costs of various transportation modes and models, and of the laws and policies that guide infrastructure funding.

The groups separately identified other issues of particular concern. Specifically, members saw a need to encourage active citizen involvement in neighborhoods through local planning and public processes. Group members anticipated that this grassroots involvement would result in the creation of more open space and the implementation of pedestrian-friendly zoning laws.

One group drafted a statement of principles to guide future transportation planning that would put the needs of pedestrians before those of vehicles, and accessibility before mobility in order to maintain a better quality of life.

Environment and Quality of Life

The two groups that discussed the impact of growth on environment and the quality of life approached their tasks quite differently. However, common to both groups was a perceived need for more community involvement in political processes and more responsiveness to the public from decision makers.

One group discussed adapting a mixed density model to Utah in an effort to increase

the sense of community in neighborhoods, to enhance quality of life, and to preserve open spaces.

The other group's focus was on life forms other than people—a concern that nearby habitats should be closed to development. Specifically, group members advocated preservation and protection of the Wasatch Front canyons through controlled access and other means to ensure that widened roads and private development do not alter the canyons' relatively pristine condition.

Both groups expressed dissatisfaction with the current direction of planning policy. Members suggested that an education effort, directed at all levels—from children to decision makers—emphasizing the local and global impacts of planning decisions, might foster the desired policy shift.

Members also discussed the creation of a formal process to require communication among federal, state, county, and local planners and to ensure that these actors function on the basis of the same data and assumptions. Suggestions included funding for grassroots activities to broaden community input into policy making and to ensure that local concerns are incorporated into the planning process at an early stage.

Public Decisions

The groups that discussed the impact of Wasatch Front growth on government decision making focused on a need for comprehensive and coordinated planning among local governments and state agencies, both across the same level and up and down the various levels of government. Group members saw a strong need for leadership and vision from the state, particularly the governor. In addition, members identified a need for coordinated planning and decision making, noting that while some local organizations have a mandate to do regional planning, they may not have the authority to implement these decisions.

As with the other groups, these group members identified a critical need to educate the public and increase public awareness of the factors involved in and consequences of planning strategies. In addition, efforts should be made to educate and increase the awareness of public officials about regional planning and the way it relates to land use, transportation, and environmental quality.

Groups members also expressed concern that government decisions are preordained and that although public comment is solicited, it is largely ignored.

Finally, groups members questioned the assumption that growth is good and suggested that decision makers be encouraged to define what growth is.

Economy

Those discussing the impact of Wasatch Front growth and related transportation and land use needs on family budgets and the regional economy collected in one large group.

Again, the need for education was a central focus for group members, who wished to see an effort to educate decision makers and individuals about the short-term and long-term real costs of promoting urban sprawl as the region's basic planning model.

Group members emphasized that planning must consider the possibility that current growth trends could reverse. Decision makers must recognize that, in the future, they may not have funds for maintenance and construction of types of transportation projects that could be started in the next few years.

Among group members there was a consensus that planning must create diverse neighborhoods and accommodate a variety of economic and social niches. Neighborhoods must integrate the needs and interests of a variety of people, including those from less advantaged classes.

As is evident from the focus of the workshops, various concerns were common to all the discussion groups. For example, all groups emphasized the need to educate the public about the costs and consequences of

various alternative planning strategies. Each group emphasized the need for increased citizen involvement in planning and for planning to occur at both the local and regional levels. Also, because specific issues of concern overlapped significantly, it is clear that group members understood that the topics of transportation, land use, environment and quality of life, public decision making, and the economy are closely linked.

Reactions

The Honorable Marda Dillree

Utah State Representative for District 17
Co-Chair, Transportation & Environmental Quality Appropriations Committee

I want to give you a vision of the pressure those who are in leadership in the political parties within our state are feeling, and the kind of things we're being faced with as we look at some of the issues we've talked about today.

I serve on the Quality Growth Scenarios Committee and I've also served on the Transportation Air Quality Land Use Task Force that existed a year ago. We worked very hard and long to come up with some legislation that might have some positive outcomes that reflect many of these ideas today. We were not successful at putting forward a piece of legislation. Why? Sometimes, instead of *en*vision, there comes a *di*vision. We polarize ourselves and don't see that we are working for the same thing. We don't have a shared vision of where we want to go and what we want to accomplish.

We came to this state because of the need for freedom. It's an underlying quality that we all value, probably above just about everything else: that freedom for personal rights and choices, which we value and we've talked so much about here today—property rights versus community rights.

But *choices*—we *really* value the freedom to *choose*. We value community. But do we value it enough to give up our freedom? Do we value it enough to give up our right to use our land the way we want to? Do we value some of these things enough to pay more for it? Or do we feel that government's hand has been out too long and expected too much, that the burden that's placed on the average citizen is more than we want to bear?

It's human nature that we resist change. If someone tells you you *have* to do something, you automatically resist. Change really has to take place through an evolutionary kind of a process. It cannot be forced, and especially, in my opinion, in the United States of America. How do we bring about change? Do we do it by imposing more restrictions, more regulations? Imposing penalties, placing more financial burdens on our citizens through taxation, or demanding that costly mitigation take place for everything we do? Do we impose another layer of government, when in fact most of us believe government-close-to-the-people is what we believe in? Do we bring about change through *common sense* and a *balance*, through incentives, cooperation, innovative business leadership, and innovative community leadership? I think *that* is how we bring about the change that we all desire to bring about.

I really like what Peter Calthorpe had to say. He really talked about some of the things that *I've* supported—a balanced kind of concept towards land use and mixed transportation. We will not succeed in imposing transit on the Western United States if we talk "no-build." It will not happen. We all value our cars too much. We all value our freedom. How many of you came today in a car by yourself? You had no choice? You didn't have choice to ride *with* others? We will not move commodities and much of what needs to be moved in the United States on a transit system. We realize that.

But while we free up our roads so that we all move more freely, I believe we need a *mix*. I think it's critical, it's important, and I've always stated that. Now there are some who *don't* agree—who say that what it takes

to add that mix is too costly. We have to weigh that out. The thing that's really critical: Are we willing to subsidize it and then *use* it? As I polled the citizenry in my community, they all believe in transit, they'd like to have it happen, but they don't envision themselves using it. The test of the light rail will be: *Will it be used?* If it succeeds, and if a commuter rail demonstration project for Utah County succeeds, the door may open and we will find that we're willing to sacrifice a little convenience. That we're willing to, individually, make the commitment to do the things that we believe in—that you're saying you believe in.

But I think it needs to come not from the top-down, but from the bottom-up. I believe that we cannot impose on local government land use planning agencies or groups that will upset today's inter-governmental cooperation in the state. Positive change is happening in several of our communities in a way that it's never happened before. Let's encourage it and let it evolve and give those communities the support they need to be successful. Give them the tools they need. Let the state work with them. I think there are some critical things that need to happen. More integrated planning absolutely has to happen, and it can start with the state agencies working more closely together with each other, with local government, and with school districts.

As you look at the cost of transit/pedestrian/bicycle subsidies on middle-income people, and especially on our senior citizens, are they going to support it? Are they going to go to the polls and support an increase? You've got to somehow put into the mix those kind of things that are going to be palatable to them. I really like the "Granny" or "Danny" flat concept because I think we're going to see a senior population that is not going to be able to afford to stay in their homes because of taxation. Put yourselves in their place.

I think business is going to play a key part, and I want to commend Robert Grow for his leading role and vision. I hope you'll be supportive of business' participation in the process and not critical of it, because businesses can accomplish much. We just saw today where a community support group in our state, the LDS church, has come out and is supporting the light-rail study—to the tune of about $800,000. They've also supported other innovative things within the community. They want this community to be visitor-friendly. You know, that sends a message. It sends a message when businesses step up and want a light rail system coming adjacent to their business.

I think businesses could look at *connecting* to each other. I mentioned this earlier to someone, that back in Milwaukee they have blocks and blocks and blocks of buildings that are connected to each other through walkways that go right over the streets. If we were being innovative and wanted that kind of a thing to happen in our community, the business leaders are going to have to help lead, as well as the civic leaders, as well as a better and more-informed citizenry.

It's something that's going to evolve, it's going to take time, and it's going to take support from all of us. I think we can accomplish our goals and objectives if we have a shared vision of what we envision for the future for Salt Lake.

photo by Meeky Blizzard

The Honorable David Jones

Utah State Representative for District 25
House Minority Leader

As I walked around, listening to the different groups, a couple of things occurred to me. The first thing that occurred to me is that there are over 300 people here. I don't know whether you remember the growth conference that was held a couple of years ago? I attended that. There weren't 300 people in *that* audience; I think we were lucky if we hand a *hundred* people in the audience. I saw that as a kind of "top-down" approach to talking about growth. It seemed to me that it was very staged. It was kind of a media event. But this seems to me to be much more of a grass-roots effort, much more spontaneous, a lot of good discussion here.

The other thing I thought of when I was walking around was that you had break-out groups here, and all of them were different. All of them had a little different topic, and yet all of them were talking about the same things. All of the solutions up here, I think, in one form or another, were discussed in each group. And I think that argues that what we're really talking about here is an inter-connected problem. And the thing that strikes me is that when we talk about growth, when we talk about traffic, when we're talking about all of these things, what we're really talking about is our fear that we are losing our sense of community. That we are losing something that's very precious and important and a big part of our life.

The opportunity, I think, for solving this problem is to realize that every part of the state is feeling the same way. I just came back from Vernal—I spent a week over there on business—and everybody over there is afraid that they are losing their sense of community as well. And I know all of the rural legislators that I deal with in the legislature, and that Marda deals with, have that same feeling. *Especially* the rural legislators. They're afraid that they're losing their open spaces, that they're losing their agricultural land. And I think that's an opportunity for us to come together and talk about some shared ideas here. Don't call it wilderness, but we should talk about open *space*, and keeping a quality of life. I think that's what these suggestions here today are all about.

One thing that was a consistent discussion item here, and that comes up in *every* group, is the issue of leadership. It's an old but true saying that the people usually get out in front of their leaders quite a ways, like in Charlie Chaplin's "The Little Dictator" where the title character is running down the street saying Wait for me, wait for me, I'm your leader!" I think that is perhaps what's going on here. The public knows that we have a significant problem. Our neighbors all know we have a significant problem. They may not be able to put their finger on it, but they know there's a problem out there, and they're looking for leadership on it. They're looking for somebody to come forward and say these are the choices in front of us. I'm very proud to be part of the Quality Growth Partnership, which is *attempting* to lay out some of these choices, because we *do* have choices.

But the public, I think, senses a lack of leadership on these issues, and I think well they should. For example, in the governor's State of the State speech last year, when talking about our vision of the future, he said: "Our vision includes building broad, smooth highways..." I remember thinking at the time, "Gee, that's a vision for the *19th* century, not the 20th, let *alone* the 21st century!" The governor's a fine man, and I know he's working on these things, but his statement seems out of *sync* with where we need to go.

Speaker Brown of the House of Representatives, one of the finest gentlemen I've *ever* known, was quoted in the newspaper recently, saying, "The Legislature has no business thinking about the future." Okay, now this is undoubtedly out of context! But, bear in mind, people are reading these things and hearing these things. I have a friend, Brad Johnson, who's a rural legislator, and he came up to me and said, "You know, what really *gets* me about this thing is that it's kind of like somebody telling you you can't do something in your own backyard!" And I said, "Brad, it's called *zoning*, and we've been living with it for a long time on the Wasatch Front." But *he hasn't*. He hasn't had that experience, so it's kind of a paradigm shift for him.

There were some great comments, and I learned a lot today. I enjoyed talking and listening to all these people. We have the opportunity to solve so many problems, at least to begin to solve so many problems. If we can think globally, if we can think holistically—and I know those sound like trite phrases—but really, that's what all of this is saying. All of these problems are interconnected. When you talk about granny, nanny and danny flats—that's a wonderful idea. It not only impacts transportation, but it impacts affordable housing, because those are on lots that are already owned by someone, and, for the most part, the infrastructure is there. So that's a great idea.

There were many suggestions today, and some I think that are worth a lot of attention. I love the idea of a "parade of homes" for multiple-use, high-density developments. I think that is a wonderful idea because the primary cause of people's fears when they hear "land use planning" is that they don't know what we're *talking about*. They have this idea of some "planner" sitting over here making all these decisions for everybody.

But if they could see the kind of choices that we have, if they could see a diverse community, if they could see a community that could entail apartment dwellers as well as single family dwellers, if they could understand what the *reality* is of those cities and those concepts, then we'd have come a long way towards educating people. And we're not just dealing with their reaction to words that they hear.

There's a real need to educate people on the costs of transportation. So many of them are hidden. We don't even know, ourselves, what the true costs of running an automobile are. And they have been subsidized for many years. What we need to do is have some *method* of getting that information out. And you know who needs it the most—Peter Calthorpe, Robert Liberty and some of the great speakers who were here today don't get much opportunity to speak in front of a legislature.

photo by Wendy Blizzard

We are part-time legislators. We all have full-time jobs and we go to these meetings and we can only absorb so much. But it would have been *wonderful* if *more* legislators could have been here today. Ralph Becker's in the audience, but Ralph already knows all this stuff. It would have been wonderful if we had had more of them here today to see the kinds of scenarios that are up here—to listen to the ideas and to get a different vision and maybe step out of the box a little bit. *That's* the kind of thing that we have to do, we have to get this kind of thing *out* there.

I think the public in general is with these ideas. I really believe that the public is *leading* their leaders, kicking and screaming. But I really think the public knows we cannot go along with the same old trajectory from the past. Something has to change drastically. And so, I believe that what needs to take place is everyone needs to not just get in touch with your legislator, but you need to help educate your neighbors, you need to help educate city council people. They need to see a broader vision. We all resist change because change is scary. But when you talk about the kinds of scenarios

that were placed in front of us today, I can't think of anything more scary than that. To imagine this valley with twice the population and to imagine this valley with twice the roads and twice the vehicle miles traveled. That's not quality of life.

There's a significant discussion that needs to continue about the place of personal property rights. For the last 20 years or so, we've had a big discussion about rights versus responsibilities, and it seems to me that the right wing captured that argument pretty well. But I think it's now time to talk about personal property rights within the context of responsibilities. You have a responsibility to your community. Not just a *right* to do what the heck you want anytime you want; some of your ability to do what you want is there because the community supports you. The community provides infrastructure. So we all have a right to give something back to our community and to use our property responsibly. It's certainly something that we need to talk about.

I guess I'll close on a note suggesting that grassroots, bottom-up movements are very important. Marda iterated that, and I thought it was a very good point. But we as a legislature need to make sure that we give our cities and our local communities the flexibility to implement changes that can work their way up to the top. Instead of squelching them and saying, "No, you will *not* have a regional plan," or "No, you will *not* step out of the box and try this other zoning approach," we need to make sure that we're giving those cities the power that they need to try new things, to innovate. Then, we might have a chance of seeing some good suggestions, some good experiments percolate to the top.

On that note, I simply want to congratulate all of you for participating today. I think *this* is a true "growth conference."

photo by Keith Bartholomew

Since the conference program, a number of actions have taken place that have moved ideas from the conference forward in the public arena. Most dramatic has been the progress of Envision Utah, which since November 1997 has developed alternative scenarios, held public meetings, and moved toward the development of a preferred growth alternative and measures to implement that alternative. Also remarkable was the 1999 Utah State Legislature's adoption of the Quality Growth Act, a measure establishing the Quality Growth Commission to review options for various methods to handle and shape future growth.

Envision Utah

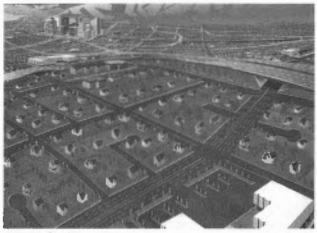
Envision Utah was formed in early 1997, several months before the Stegner Center's conference. Created through the combined efforts of a private nonprofit organization (Coalition for Utah's Future) and a state agency (Quality Growth Efficiency Tools Technical Committee), Envision Utah is a public/private community partnership dedicated to studying the effects of long-term growth in the Wasatch area of northern Utah. The project's aim is to create a publicly supported growth strategy that will preserve Utah's high quality of life, natural environment, and economic vitality during the next 50 years.

Just prior to the 1997 conference, Envision Utah completed its first two preliminary steps in the study process. The first was a household survey to determine residents' values and to find out what they most want to preserve or change in the face of Utah's rapid growth. The second was the production of a *Baseline Scenario* report, which projected the effects of Utah's growth during the next 20 to 50 years under current trends. This report provided the basis for many of the presentations delivered at the conference.

Following the conference, during the spring and summer of 1998, Envision Utah held a series of public workshops throughout the greater Wasatch area that collected opinions and data from citizens on how to shape future development. The workshops included extensive work on regional maps and explored topics including land use, transportation, and open space preservation.

From the input received at the workshops, Envision Utah crafted four alternative growth scenarios. These options posited possible development patterns that could result if various growth strategies are implemented during the next 20 to 50 years:

Scenario A



Scenario illustrations by Brett Thomas

shows how the region could develop if the pattern of dispersed development occurring in some communities today were to continue. New development would primarily take the form of single-family homes on larger, suburban lots. Most development would focus on convenience for auto users, and transportation investments would support auto use.

Compared to current conditions, average lot sizes would increase in Scenario A, and the distance between homes would continue to increase. Most of the new housing would be single-family homes on larger lots (1/4 acre and larger), providing many residents with opportunities for large yards and suburban living. This could, however, create a shortage of rental housing in the region, which the market would accommodate by encouraging people to convert more single family homes into rental properties. The larger lot sizes would cause more new land to be developed in Scenario A than in any of the other scenarios, leaving less land for open

space and agriculture. The supply of undeveloped land would diminish more quickly, possibly causing an increase in land and housing costs. Infrastructure costs (transportation, water, sewer, and utilities) would also increase because of additional roads and longer transmission lines, and would be the highest of all scenarios.

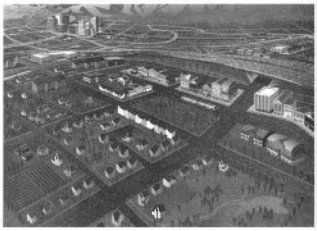
Because development would cover a larger area and travel would be more auto-oriented, Scenario A would require a significant expansion of the freeway system and more miles of new arterial streets. Expansion of mass transit would not serve the dispersed population very effectively. Most of the transportation investment would be geared toward improving automobile use. The increased investment would result in faster speeds, but the dispersed development pattern would cause longer trips, with the end result being about the same amount of time spent on the road.

Scenario B

shows how the region would develop if state and local governments followed their 1997 plans. Development would continue in a dispersed pattern, much like it has for the past 20 years, but would not be as widely dispersed as in Scenario A. Like Scenario A, however, new development primarily would take the form of single-family homes on large suburban lots and would focus on convenience for auto users.

Lot sizes and distance between homes would remain near their current averages. There could be a few more rental opportunities than in Scenario A, but the supply could still fall short of meeting current market demands. Scenario B would consume a large amount of raw land, although not as much as Scenario A, limiting the land available for open space and agriculture. Infrastructure costs would also increase over the next 20 years, and would be the second highest of all scenarios. Transportation expenditures would be focused on upgrading the existing freeway system and extending surface streets into newly developed areas. Street and highway expenditures would be lower than in Scenario A, but speeds would be lower as well. Although this scenario does not add any rail transit beyond the Downtown-Sandy line currently under construction, it does envision some expansion and reconfiguration of bus service.

Scenario C



shows how the region might develop if we were to focus much of our new development in walkable communities that contained nearby opportunities to work, shop, and play. Communities would accommodate a portion of new growth within existing urbanized areas, leaving more undeveloped land for open space and agriculture. New developments would be clustered around a town center, with a mixture of retail services and housing types close to a transit line. These communities would be designed to encourage walking and biking, and would contain a wide variety of housing types, allowing people to move to more or less expensive housing without leaving the community.

Average lot sizes in Scenario C would be smaller than today. Most of the new housing provided would still be single-family homes on large lots, but more apartments, townhouses, condominiums, and small-lot single-family homes would be provided than

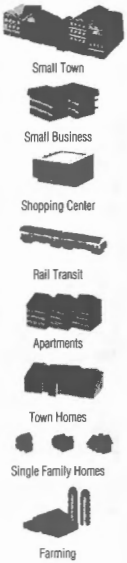
in A or B. Smaller lot sizes would allow Scenario C to consume raw land less quickly, leaving more land available for open space and agriculture. Infrastructure costs would be lower in Scenario C than in any other scenario. Because Scenario C focuses new development into more compact land use patterns, walking and biking would become more feasible. This would also make mass transit a highly effective means of serving the population, providing a greatly increased number of people with convenient alternatives to the automobile. Scenario C would therefore propose large-scale expansion of the rail system, and reconfiguration of bus service to complement rail service. Transportation investments would be focused much more heavily on transit than they are today, with most road investments going into improvement of existing roads rather than construction of new ones.

Scenario D

shows how the region might develop if Scenario C were taken one step further, focusing nearly half of all new growth in existing urban areas. This would leave more undeveloped land for open space and agriculture than any of the other scenarios. When new land is used, development would be clustered around a town center, with a mixture of commercial and housing types close to some portion of a greatly expanded transit system. These communities would be designed to permit and encourage walking and biking, and would contain the widest variety of housing types of any scenario.

Average lot sizes would be smaller than in all other scenarios. Most new housing would be townhouses and single-family homes on small lots, and more apartments, townhouses, condominiums, and small-lot single-family homes would be available than in the other scenarios. Infrastructure costs in Scenario D would be lower than A and B, but somewhat higher than C, as clustering of so many new residents into existing urban areas would necessitate improvements to existing infrastructure. Because Scenario D focuses new development into more compact land use patterns, mass transit would serve a larger share of the population, providing many more people with convenient alternatives to the automobile.

After assembling the four scenarios, Envision Utah analyzed each alternative to determine its relative impacts on transportation, air quality, water use, land consumption, and fiscal costs. The results, summarized in the table below, show that Scenario A would nearly double the size the region's urbanized land, and would cost $15 billion more in infrastructure than Scenario C. It would also result in 150 more tons of air pollutants per day and 30% more water consumed per person than Scenario C. In transportation, less than 2% of the region's population would be within walking distance of rail transit under scenarios A and B, while 25% of the population would have walking access to transit under Scenario C and 32% under Scenario D.



With the completion of the analysis, Envision Utah conducted a wide-spread public awareness, education and mass media campaign to encourage area residents to express their preferences on how they want their communities and the region to develop, and to increase understanding of the options and challenges inherent to growth. The project distributed 570,000 growth questionnaires throughout the Greater Wasatch Area in daily newspapers and weekly ad supplements, and posted the questionnaire on its web site. Over 17,000 people completed and returned the questionnaires. In addition, a series of town meetings were held, also with the objective of gauging public sentiment about the scenarios.

The results, which were compiled and analyzed by a professional polling firm, indicate that more than half (52%) of the respondents feel air quality is a leading concern for the region. Water availability and transportation were also important, but not by quite as much. Interestingly, lot size and

housing type (single-family vs. multi-family) were among the lower-rated concerns. As to scenarios, 30% preferred Scenario C, 9% preferred Scenario D, and 26% preferred a hybrid between the two scenarios. Less than 4% preferred scenarios A or B.

Envision Utah's current task is to create a "Quality Growth Strategy" that blends the attributes identified in the various public outreach efforts. The first step in this part of the process was to host a workshop for the project's partners on possible growth management strategies. The most popular strategies mentioned at the workshop were those that promoted compact development, walkable and mixed-use communities, and transit-oriented development. The least popular strategies were those that imposed higher costs on driving and/or limited flexibility in automobile use. The project is now developing a draft Quality Growth Strategy, which will be modeled, analyzed, and then released for further comment.

Once the final Quality Growth Strategy is complete, the second phase of the Envision Utah process, focusing on implementation of the strategy, will begin. Although the precise methods of this work are unknown at this point, it is anticipated that Envision Utah will work to promote improved growth management and land use policies and practices at all appropriate levels throughout the region.

		Choices for 2020			
Element	**Current**	**Scenario A**	**Scenario B**	**Scenario C**	**Scenario D**
Transportation					
Average peak hour speeds (mph)	25.7	22.9	20.0	20.9	19.8
People with walking access to rail transit (1/2 mile)					
Population	0	38,755	45,557	664,991	866,765
Percent of total population	0	1.5%	1.7%	25%	32%
Water					
Total Water Demand (acre feet)	698,800	1,025,900	954,200	808,600	770,500
Per Capita Water Use (gal./day)	319	303	279	231	218
Air Quality					
Total emissions (tons per day)	1869	2660	2511	2501	2512
Land Use & Housing					
Average size of single-family lot	0.32 acre	0.37 acre	0.35 acre	0.29 acre	0.27 acre
Overall housing availability	(1990 Census)				
Single Family	68%	77%	75%	68%	62%
Townhouses	4%	4%	4%	7%	9%
Condos and Apts	28%	19%	21%	25%	29%
Land consumed (sq. mi.)					
Agricultural	—	174	143	65	43
New	—	409	325	126	85
Total	431	840	756	557	516
Cost					
Cost of water, sewer, transp., utilities 1998-2020	—	$37.6 billion	$29.8 billion	$22.1 billion	$23.0 billion

Envision Utah 1999

Utah Quality Growth Act of 1999

In March 1999, the Utah State Legislature adopted the Utah Quality Growth Act of 1999 as a first step toward managing growth in the state. The primary function of the bill was to establish the Utah Quality Growth Commission. The Commission includes 13 members, eight of which are government officials (two from state government and six from local government), and five from the private sector (two of which are to be nominated by the real estate and home building industries).

The Commission has no regulatory authority. Rather, it is charged with making recommendations to the Utah Legislature on possible growth management legislation. In addition, the Commission is to consider criteria for defining "quality growth areas," which are places where the state might encourage high-density and affordable housing. In formulating its recommendations, the Commission must consider how to ensure the protection of private property rights, how to implement a policy of no net decrease in the value of private real estate, and how to maintain local government control over land use decisions. Although the Act holds out the promise of requiring state infrastructure spending to be consistent with growth principles the Commission might adopt, that requirement is framed only as a statement of intent for the content of future legislation.

Questions & Opportunities

The 1997 Stegner Center conference acted as a catalyst to help move public discussion forward on land use and transportation issues. Since the conference, Envision Utah has invested heavily in public education at both the grass root and the "brass roots" levels. That effort has delivered dividends in the form of public feedback on a variety of growth issues and possible future scenarios for the region, and in the formulation and passage of the Utah Quality Growth Act. While these are positive and laudable steps toward defining a future vision for the Wasatch Front region, many issues remain unresolved.

Chief among these issues are questions surrounding the content and implementation of the Quality Growth Strategy—Envision Utah's blueprint for growth and development for the first half of the 21st century. The overwhelming majority of respondents to Envision Utah's outreach efforts indicated a desire for a more compact development pattern in the future than what the region has experienced in recent decades and what is likely to occur without significant policy intervention. While the response rate to the project's outreach campaign is high for efforts of this kind, however, respondents still represent a small percentage of the region's population. Hence, ensuring that the population at large supports a given strategy remains an important challenge. Moreover, many of the same respondents who indicated support for more compact development also indicated that they prefer voluntary strategies, rather than compulsory measures, in working to achieve the desired outcome. Whether the region can craft effective strategies that bring about the vision by only hortatory expressions and inducements remains to be seen.

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Some may determine that implementation of a vision similar to Scenario C is not possible without new standards and administrative regulations adopted by some authority larger than current local governments. Others may look to financial incentives as a means to actualize the region's new vision. However, feedback from Envision Utah's public outreach efforts indicates little support for the various forms of road pricing

(such as toll roads and congestion pricing), which is one of the most discussed, and perhaps most effective, incentive-based programs. Whether similar hostility is expressed in reaction to other financially based incentive programs is unknown. Experience in other regions, however, indicates that incentives targeted at the location, type, or design of new development are often opposed by the home building and development industries, sometimes with great force.

Related to these issues are political questions concerning property rights and real estate values. As in other places in the West, Utahns are known to subscribe heavily to beliefs surrounding the inviolability of property rights and real estate investment values. These sentiments were expressed during the conference by Representative Dillree and others, and in the Utah Quality Growth Act. Robert Liberty expressed a different view of property rights, in which the rights of other property owners, and the public at large, are considered along with the rights of those who want to develop their land. How the majority of Utahns will decide to balance these ideas in the context of the state's high growth rate is an open question.

Just as important are questions regarding the region's transportation system. When the conference was held, Interstate 15 through Salt Lake County was being reconstructed to nearly double its capacity. The proposed Legacy Highway, a 120-mile bypass along the region's western edge, was a major topic of controversy. So too was the subject of light rail in the valley. Nearly two years later, these subjects are still as present and as controversial. I-15 is still under construction and plans are underway to extend the expansion north into Davis County. The Legacy Highway, now under environmental review, is perhaps even more controversial: a hearing on the freeway's draft environmental impact statement attracted more than 300 opponents, and the project is now being opposed by the Army Corps of Engineers and the Environmental Protection Agency. Though the region's first light rail line is now complete, controversy swirls around proposals to expand the system. Additional issues concerning commuter rail service, high-occupancy vehicle lanes, and pedestrian and bicycle facilities abound.

Whether the region decides to maintain its strong preference for automobile based transportation systems, or whether it makes a shift toward balanced investment strategies that more fully accommodate—or even promote—other modes is a crucial question for the region. Given Utahns' near exclusive reliance on the automobile in recent years, many are doubtful that non-automotive options are feasible. Others point to expanding population, increased driving, and seemingly unsolvable congestion and question the feasibility of providing access and mobility without significant shifts to non-automotive modes.

Regardless of the region's transportation choices, a separate but related question remains regarding whether the region will work to integrate land use and transportation decision making processes and objectives. Like all U.S. metropolitan areas, decisions regarding major transportation facilities along the Wasatch Front are made by regional associations of local governments. While this arrangement would seem to ensure transportation/land use consistency, most often such coordination is lacking: highways get built away from places where the region wants development to be focused; major transit facilities are constructed through areas zoned for automotive style development. A coherent system providing a process to ensure a link between land use and transportation goals remains elusive.

All of these issues raise questions about the ability of the Wasatch Front region to achieve its vision for the future under current governing structures. An often repeated philosophy expressed by leaders of the Envision Utah process is the duel insistence that no new state or regional governing agencies will be created to implement the Quality Growth Strategy, and that land use decision making authority remain with local governments. This latter viewpoint was even codified in the Quality Growth Act, as discussed above. Some, however, argue that meaningful implementation of the Quality

Growth Strategy depends on the creation of a new regional governing system. Examples such as Portland, Oregon's Metro regional government and the Metro Council in the Twin Cities are frequently cited. Others believe that such examples are inconsistent with traditional Utah antipathy to "big government" in general and to additional layers of government in particular.

According to many involved in the Envision Utah process, the role of the state in implementing growth-related reforms is to provide leadership and coordination. The precise nature of this role, however, is undefined at this point. It could be limited to gathering and providing data and information to local decision makers, or it could include mechanisms to provide accountability amongst local and state governments for compliance with agreed to principles and policies. This, in turn, could provide the basis for infrastructure and other forms of government investment decisions.

A coherent system providing a process to ensure a link between land use and transportation goals remains elusive.

Conclusion

The Wasatch Front region of Utah is a place blessed with an abundance of riches: an oasis containing arable land surrounded by alkali deserts and granite peaks, beautiful vistas, and abundant natural treasures. It is also a community promising economic prosperity, diverse and enriched cultures, and security and neighborly friendliness.

As has occurred in other "Edens," however, the advantages provided by such a high quality of life also contain the seeds of its own undoing. The quality of life is part of the reason that the region is growing quickly. Will it go the way of Los Angeles and San Jose? Will the side effects of growth dampen or eliminate those values that make the region precious and endearing to generations of Utahns? How the Wasatch Front addresses the challenges of growth in the next few years will determine much for the quality of life in the region throughout the 21st century and beyond.

photo by Gary Crandall

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